

**MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY  
OPERATING PERMIT TECHNICAL REVIEW DOCUMENT**

**Permitting and Compliance Division**

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PPL Montana, LLC

Colstrip Steam Electric Station

Section 34, Township 2 North, Range 41 East, Rosebud County, Montana

580 Willow Ave., P.O. Box 38

Colstrip, MT 59323

The following table summarizes the air quality programs testing, monitoring, and reporting requirements applicable to this facility.

<b>Facility Compliance Requirements</b>	<b>Yes</b>	<b>No</b>	<b>Comments</b>
Source Tests Required	X		Method 5, Method 6, Method 7, Method 9
Ambient Monitoring Required		X	
COMS Required	X		#OP0513-08, Appendix E
CEMS Required	X		#OP0513-08 - CO <sub>2</sub> , Appendix F - SO <sub>2</sub> and Appendix G - NO <sub>x</sub>
Mercury Emissions Monitoring System (MEMS) Required	X		
Schedule of Compliance Required		X	
Annual Compliance Certification and Semiannual Reporting Required	X		As Applicable
Monthly Reporting Required		X	
Quarterly Reporting Required	X		Opacity, NO <sub>x</sub> , SO <sub>2</sub> , and mercury
<b>Applicable Air Quality Programs</b>			
ARM Subchapter 7 Montana Air Quality Permits (MAQP)	X		MAQP #0513-08
New Source Performance Standards (NSPS)	X		40 CFR Part 60, Subpart D, Da, and Y
National Emission Standards for Hazardous Air Pollutants (NESHAPS)	X		No, Except for 40 CFR Part 61, Subpart M
Maximum Achievable Control Technology (MACT)	X		40 CFR Part 63, Subparts DDDDD, UUUUU, and ZZZZ
Major New Source Review (NSR) – includes Prevention of Significant Deterioration (PSD) and/or Non-attainment Area (NAA) NSR	X		
Risk Management Plan Required (RMP)	X		
Acid Rain Title IV	X		#OP0513-08, Appendix H
Compliance Assurance Monitoring (CAM)	X		#OP0513-08, Appendix I
State Implementation Plan (SIP)	X		General SIP applies

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## SECTION I. GENERAL INFORMATION

### A. Purpose

This document establishes the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit proposed for this facility. The document is intended for reference during review of the permit by the United States Environmental Protection Agency (EPA) and the public. It is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit.

Conclusions in this document are based on information provided in the Title V Operating Permit renewal application submitted to the Department of Environmental Quality (Department) by PPL Montana, LLC (PPLM) on March 25, 2010, with additional information submitted on March 30, 2012, related to the plan for Compliance Assurance Monitoring (CAM). In addition, information was gathered from the PPLM submittal of the Title V Operating Permit renewal application received by the Department on June 27, 2002. Additional information for the renewal application was received on October 10, 2003. A significant modification application was received on December 31, 2008. Conclusions in this document are also based on information gathered from the original permit issued April 1973 and August 1981, and the PSD permit issued by the EPA in 1979. Further, information was gathered from the application submitted by the Montana Power Company (MPC) – Colstrip on June 12, 1996, and additional information submitted December 20, 1995, February 9, 1996, September 18, 1996, October 7, 1996, December 16, 1996, and September 16, 1997. Additional submittals were provided on May 14, 1998; August 13, 1998, August 16, 1999; June 26, 2000; May 1, 2001, and October 23, 2007. Additional information was provided in the application for a Montana Air Quality Permit (MAQP) submitted to the Department on January 11, 2005. An application for renewal (#OP0513-07) was received on March 25, 2010. Following issuance of draft Operating Permit #OP0513-07, the Department reissued the permit under Operating Permit #OP0513-08.

### B. Facility Location

PPLM operates the Colstrip Steam Electric Station consisting of four tangential coal fired boilers and associated equipment for generation of electricity. The Colstrip facility is located in Section 2, Township 2 North, Range 41 East, Rosebud County, Montana.

### C. Facility Background Information

#### Montana Air Quality Permit (MAQP)

On April 23, 1973, **MAQP #513-111472 (#0513-00)** was issued to the MPC for the construction of Units 1 & 2, and on August 26, 1981, MAQP #0513-00 was issued to MPC for the operation of Units 1 & 2.

A petition for modification of the permit was filed by MPC on January 25, 1978. On February 28, 1978, the Board of Health and Environmental Sciences issued a board order to modify the Preconstruction Permit. The modification included changing the height of the two stacks to 525 feet and allowing the inlet sulfur dioxide (SO<sub>2</sub>) monitor values to be based on a 3-hour average.

**MAQP #0513-01** was issued to MPC to include the installation and operation of a Syncoal Truck Dump and a lime silo bin vent. Syncoal fines and coarse product are combined to form a blend product that will be supplied to Units 1 & 2. The installation and operation of these sources will increase the allowable particulate emissions for Units 1 & 2 by 1.12 tons per year (TPY). MAQP #0513-01 replaced MAQP #0513-00 (513-111472).

**MAQP #1187** was issued to MPC on January 20, 1977, for the construction of Units 3 & 4. Because the proposed facility was a major source under the Prevention of Significant Deterioration (PSD) program, the additional review requirements of the PSD program applied to the project. The state did not have authorization to implement the PSD program at the time of the application; therefore, the PSD review was conducted by the EPA. EPA issued a PSD permit for the construction of the facility on September 11, 1979.

**MAQP #1187-M1** was issued on February 5, 1980, and **MAQP #1187-M2** was issued on May 26, 1981. The modifications were completed because of changes to the applicable rules and standards of the Administrative Rules of Montana (ARM) and to include changes that had been made at the facility differing from the original application.

On October 13, 1996, **MAQP #1187-03** was issued. The permit correctly identified the actual maximum heat input capacity of Units 3 & 4. The units are each rated at a heat-input capacity of 7573 million British thermal units per hour (MMBtu/hr) with a production capacity of 778 Megawatts. These are nominal capacities for the facility and, depending on plant operating conditions, actual heat input to the facility may be as high as 8000 MMBtu/hr from each unit.

MAQP #1187-M2 and the EPA permit contained emission limits for particulate, SO<sub>2</sub>, and oxides of nitrogen (NO<sub>x</sub>) with units of pounds per MMBtu (lb/MMBtu). To ensure that emissions from the facility were not higher than those on that the original analysis was based, this permit established emission limits for these pollutants in the units of pounds per hour (lb/hr). The new emission limits were established based on the nominal heat input to the boilers of 7573 MMBtu/hr multiplied by the current emission limits in lb/MMBtu. MAQP #1187-03 also placed a yearly fuel consumption limit on each unit. The limit was equal to the heat input of each unit operating at the nominal heat input rate of 7573 MMBtu/hr for 8760 hours per year. This limit ensured that emissions of pollutants that did not have limits in the permit were not increased above current levels. The permit also incorporated requirements from the PSD permit issued by EPA in 1979. These requirements were incorporated at the request of MPC for the purpose of developing a comprehensive document that contained pertinent requirements from both the state permit and the EPA PSD permit. MAQP #1187-03 replaced MAQP #1187-M2.

On September 30, 1998, **MAQP #1187-04** was issued to MPC for Units 3 & 4. The alteration included incorporation of a 3-hour rolling average SO<sub>2</sub> limit, the 1% inlet sulfur standard that was inadvertently removed during the previous modification, and the removal of the inlet monitor requirement.

The 3-hour SO<sub>2</sub> limit was incorporated in the permit to ensure protection of the 3-hour SO<sub>2</sub> standard. During the last permit action, the maximum heat inputs for Units 3 & 4 were discovered to be 8,000 MMBtu/hr. Because these heat inputs were higher than those in the original permit, the Department and MPC agreed that short-term SO<sub>2</sub> and NO<sub>x</sub> emission limits would be implemented. The Department completed modeling for the short-term SO<sub>2</sub> emission limits. MPC was limited to a maximum of 4273 lb/hr of SO<sub>2</sub>, averaged over any rolling 3-hour period from both stacks combined. These limits allowed MPC the flexibility of operating Unit 3 or Unit 4 at a higher level at any one time, while continuing to ensure protection of the standard.

The 1% inlet sulfur limit existed in the original permit, but was inadvertently removed during a previous permit action. MPC continued to maintain compliance with the 1% inlet sulfur limit, even though it was not stated in the permit.

The requirement for the inlet sulfur monitor as a compliance demonstration for the inlet sulfur content was replaced with an on-going fuel-sampling analysis. The on-going fuel-sampling analysis yielded a more accurate account of the sulfur content of the fuel, as compared to the sulfur content being correlated to SO<sub>2</sub> emissions.

The permitting action was an alteration of MAQP #1187-03 because of the change in the compliance demonstration for the 1% sulfur content limit. The 1% sulfur content limit and demonstration of compliance was included in the February 28, 1978, Board of Health and Environmental Sciences Findings of Fact and Conclusions of Law and Order. The alteration process allowed public involvement in the change in the compliance demonstration method. However, the permitting action did not result in any change in the emissions from the facility. MAQP #1187-04 replaced MAQP #1187-03.

In letters dated June 18, 1999, and August 16, 1999, MPC and PPLM requested that the permits for Units 1 & 2 and Units 3 & 4 be transferred to reflect the new ownership. The transfer of the permits was to occur when the transfer of ownership to PPL Montana, LLC was final. Through the Department's review, it was determined that Units 1 & 2 and 3 & 4 would now be defined as one source. Therefore, the permit modification transferred ownership, as well as combined MAQPs #0513-01 and #1187-04. The permit conditions remained the same, but were simply combined into one permit. **MAQP #0513-02** replaced MAQPs #0513-01 and #1187-04.

On September 10, 2000, **MAQP #0513-03** was issued to PPLM to conduct a test burn of petroleum coke/Syncoal/Rosebud coal fuel combination in Units 1 & 2. A petroleum coke consumption limit was placed in the permit to ensure that the proposed test burn did not exceed 15 TPY of any pollutant. Because the emissions from this project were less than 15 TPY of any pollutant, the project occurred in accordance with the ARM 17.8.745(1). MAQP #0513-03 replaced MAQP #0513-02.

On May 1, 2001, PPLM submitted a completed application to the Department proposing to add petroleum coke to the list of fuels to be used in Units 1 & 2, which were then permitted to burn Syncoal and subbituminous coal. The alteration to MAQP #0513-03 limited the amount of petroleum coke that could be burned in Units 1 & 2. The conditions included in the permit for the burning of petroleum coke were Section II.A.9, 10, 11, 12, and 13, Section II.B.3 and Section II.F. The permitting action was not considered a major modification under the PSD regulations because the facility was capable of accommodating petroleum coke. **MAQP #0513-04** replaced MAQP #0513-03.

On January 11, 2005, Arnold & Porter LLP, on behalf of PPLM, submitted a request for an administrative amendment to MAQP #0513-04. The request was to reduce the 3-hour rolling average SO<sub>2</sub> emissions limit (combined stack limit) for Units 3 & 4 from 4,273 lb/hr to 4,140 lb/hr.

The request was submitted in response to an outstanding concern of the Department and the Northern Cheyenne Tribe regarding emissions modeling for SO<sub>2</sub> increment consumption conducted for the issuance of the 1979 PSD permit for Units 3 & 4.

As part of the permit application, PPLM submitted AERMOD modeling to demonstrate compliance with the Class I PSD increment for SO<sub>2</sub> on the Northern Cheyenne Reservation. The Department, in consultation with the EPA Region VIII and the Northern Cheyenne Tribe, requested an additional sensitivity analysis be conducted at a 75% load scenario to comply with national modeling guidance and the model's demonstrated sensitivity to plume rise. PPLM submitted the sensitivity analysis demonstrating that the proposed SO<sub>2</sub> limit of 4,140 lb/hr would protect the 3-hour increment on the Northern Cheyenne Reservation.

In addition, PPLM submitted a request to the Department on November 20, 2000, to remove the ambient air quality monitoring requirements from MAQP #0513-04 for Units 3 & 4. Based on the request and additional information submitted on October 3, 2001, the Department approved the removal of the monitoring requirements. The Department sent an approval letter dated October 19, 2001, after PPLM demonstrated that the potential to cause a violation of the ambient standard was minimal at all sites and monitoring may be removed as provided for in the October 1998 Department guidance.

The permit format, language, and rule references were updated to reflect then-current Department permit format, language and rule references. **MAQP #0513-05** replaced MAQP #0513-04.

On October 23, 2007, PPLM submitted a request for an administrative amendment to MAQP #0513-05. The request was to incorporate revised NO<sub>x</sub> standards for Units 3 & 4, as stipulated by Consent Decree CV-07-40-BLG-RFG-CSO entered on May 14, 2007. In addition, the Department was requested to clarify that the compliance demonstration for the revised limits would be demonstrated for an “operating day” firing any fuel, which would go beyond the Consent Decree requirements. **MAQP #0513-06** replaced MAQP #0513-05.

On December 31, 2008, PPLM submitted an application to modify MAQP #0513-06. The reason for the modification was to establish a mercury emission limit for Units 1-4, pursuant to ARM 17.8.771, and to provide an analysis of potential mercury control options including, but not limited to, boiler technology, mercury emission control technology, and any other mercury control practices. The application included a proposed mercury emission control strategy, a proposed mercury emission limit, and associated operating requirements for Units 1-4 in order to comply with ARM 17.8.771. The permit action updated rule references, permit format, and the emissions inventory. **MAQP #0513-07** replaced MAQP #0513-06.

On January 28, 2010, PPLM requested an administrative amendment to MAQP #0513-07. The reason for the amendment was to update a compliance date for NO<sub>x</sub> emissions from Colstrip Unit 4 pursuant to its Consent Decree. A stipulation to the Consent Decree was filed on December 22, 2009 due to the occurrence of a Force Majeure incident, such that a new compliance date for installation and operation of the digital controls, low-NO<sub>x</sub> burners and overfire air was established to be March 31, 2010 or seven days after the completion of NO<sub>x</sub> emission controls tuning, whichever date was earlier. Tuning was completed on Unit 4 NO<sub>x</sub> control systems on January 12, 2010. This amendment updated the permit to reflect the changes to the Consent Decree; specifically, the applicable compliance dates in Sections II.A.18 and 20 were updated to January 19, 2010. **MAQP #0513-08** replaced MAQP #0513-07.

#### Title V Operating Permits

On September 23, 1997, draft **Operating Permit #OP0513-00** was issued to MPC for Units 1 & 2. The permit contained the necessary requirements to comply with the operating permit program requirements and the acid rain permitting requirements.

On October 6, 1997 (prior to the permit becoming final and effective), **Operating Permit #OP0513-01** was issued to MPC to correct errors in Operating Permit #OP0513-00. The permit contained a typographical error in the expiration date. The Montana air quality regulation and the acid rain regulations both require the issuance of permit with a fixed term of 5 years. The permit effective date was January 1, 1998. The expiration date should have been December 31, 2002, instead of 2003. Operating Permit #OP0513-01 replaced Operating Permit #OP0513-00.

On April 12, 2005, the Department issued **Operating Permit #OP0513-02** final and effective. The permit was a renewal of Title V Operating Permit #OP0513-01 and Operating Permit #OP1187-00. The two permits, along with the Acid Rain Permit #AR1187-00, were combined as Operating Permit #OP0513-02. Changes in the permit included the addition of two small propane fueled emergency backup generators at the facility, and the removal of the auxiliary boiler for Units 3 & 4. Also, PPLM submitted a CAM Plan for particulate matter (PM) for Units 1-4 in accordance with 40 CFR Part 64. A summary of the CAM plan can be found in Appendix I of the Title V Operating Permit. A complete copy of the CAM plan can be obtained from the Department or the facility.

The Department included a compliance plan/schedule in Section III.A. The Department believed that PPLM had not been able to demonstrate compliance with protection of the 3-hour and 24-hour SO<sub>2</sub> increments (ARM 17.8.804 and ARM 17.8.820) on the Northern Cheyenne Reservation. The condition required PPLM to submit a narrative description of how the facility would demonstrate compliance with these increments and provide a schedule for achieving such compliance. Further information can be found in Section I.F. Compliance Demonstration. The permit was also updated to reflect current permit rule citations and format. Operating Permit #OP0513-02 replaced Operating Permits #OP0513-01, #OP1187-00, and #AR1187-00.

An administrative amendment to incorporate the changes made to Operating Permit #0513-05 was completed. The amendment included the reduction of the 3-hour rolling average SO<sub>2</sub> emissions limit (combined stack limit) for Units 3 & 4 from 4,273 lb/hr to 4,140 lb/hr. **Operating Permit #OP0513-03** replaced Operating Permit #OP0513-02.

On October 23, 2007, PPLM submitted a request to incorporate revised NO<sub>x</sub> standards for Units 3 & 4 into PPLM's MAQP and Title V permits. The application was deemed complete on December 20, 2007. The request was to incorporate revised NO<sub>x</sub> standards for Units 3 & 4, as stipulated by Consent Decree CV-07-40-BLG-RFG-CSO entered on May 14, 2007. In addition, the Department clarified that the compliance demonstration for the revised limits would be demonstrated for an "operating day" firing any fuel, which would go beyond the Consent Decree requirements. **Operating Permit #OP0513-04** replaced Operating Permit #OP0513-03.

As part of this significant modification, the Department made the following additional administrative corrections:

- Renumbered the emitting units (EU) in the table under Section II to reflect the current identifications;
- Added EU016, for the alternate fuel loading requirements;
- Removed EU012, for the scrubber relining process, since it was determined that this was a maintenance procedure involving air pollution control for EU001 – EU004 and was in fact an insignificant activity;
- Revised opacity requirements for Units 1 - 4 to include opacity of 20% or greater averaged over 6 consecutive minutes "*except for one 6-minute period per hour of not greater than 27% opacity*" consistent with the NSPS;
- Revised NO<sub>x</sub> limitations under Section III.B.7 and III.C.10, to reflect conformance with Acid Rain provisions;
- Added Units 1 & 2 Syncoal and petroleum coke and scrubber operation requirements;
- Changed SO<sub>2</sub> reference test methods from Methods 6 & 6A to Methods 6 & 6C;
- Clarified continuous emission monitoring systems (CEMS) reporting (opacity, SO<sub>2</sub> and NO<sub>x</sub>) to be quarterly for Unit 1 – 4. While the Department has historically requested quarterly reporting, the Title V permit was previously inconsistent. This included updates to EU001 – EU004 as well as Appendices E, F, and G;
- Clarified that compliance with the requirements in the consent decree entered 5/14/07 (Consent Decree CV-07-40-BLG-RFC-CSO0) is deemed compliance with the Units 3 & 4 requirements for Best Available Retrofit Technology (BART); and

- Renumbered CEMS regulatory requirements to reflect the revised NSPS – 40 CFR Part 60, Subpart Da.

On December 31, 2008, PPLM submitted an application to modify Operating Permit #OP0513-04 to include mercury emission limitations under ARM 17.8.771 that were incorporated into MAQP #0513-07 on April 9, 2009. On February 3, 2009, PPLM sent a letter to the Department requesting that Steve Christian be designated as an Alternate Responsible Official. Operating Permit #OP0513-04 was updated to reflect the new mercury control requirements and the new Alternate Responsible Official. **Operating Permit #OP0513-05** replaced Operating Permit #OP0513-04.

On January 28, 2009, PPLM requested an administrative amendment to Operating Permit #OP0513-05. The amendment was to update a compliance date for oxides of nitrogen (NO<sub>x</sub>) emissions from Colstrip Unit 4 pursuant to Consent Decree CV-07-40-BLG-RFC-CSO (Consent Decree) entered May 14, 2007. A stipulation to the Consent Decree was filed on December 22, 2009 due to the occurrence of a Force Majeure incident, such that a new compliance date for installation and operation of the digital controls, low-NO<sub>x</sub> burners and overfire air was established to be March 31, 2010 or seven days after the completion of NO<sub>x</sub> emission controls tuning, whichever date is earlier. Tuning was complete on Unit 4 NO<sub>x</sub> control systems on January 12, 2010. This amendment updated the permit to reflect the changes to the Consent Decree, specifically compliance dates for Unit 4 NO<sub>x</sub> emissions at Sections III.C.14 and 16 were changed to January 19, 2010. **Operating Permit #OP0513-06** replaced Operating Permit #OP0513-05.

#### D. Current Permit Action

On March 25, 2010, the Department received an application for renewal of PPLM's Title V Operating Permit. The current permit action is a renewal of Operating Permit #OP0513-06 for PPLM and includes updates of current permit language and rule references used by the Department. During the renewal process, it became apparent that language and requirements included within a Findings of Fact and Conclusions of Law signed by the Board of Health and Environmental Sciences (BHES) on November 21, 1975 had not been included within the permit. The document contains information and requirements pertaining to the grant of conditional certification for Colstrip Units 3 and 4 made pursuant to Section 70-810 (L), Revised Code of Montana (R.C.M) 1947 of the Major Facility Siting Act (MFSA). The document states that "The applicant's will utilize only coal from the Rosebud seam. It will at no time exceed 1% inlet sulfur content. Daily testing of the coal and sulfur content will be required to effect that control." Operating Permit #OP0513-06 did not include a requirement specifying the coal source (i.e. Rosebud seam). Draft Operating Permit #OP0513-07 (and subsequent iterations) incorporated this condition as required under the requirements of Title V of the Federal Clean Air Act (FCAA).

The Department issued draft Operating Permit #OP0513-07 on May 17, 2011. Following the issuance of draft Operating Permit #OP0513-07, through the review of the administrative process of issuance, the Department determined that it had not met its obligation under ARM 17.8.1233, specifically giving notice to all "Affected States" (or entities, as is applicable in this case) as defined under ARM 17.8.1201(3). The Department did not notify the Northern Cheyenne or Crow Tribes during the issuance of draft Operating Permit #OP0513-07.

Further, following issuance of draft Operating Permit #OP0513-07, the Department received a substantial number of public comments as well as comments and additional information (i.e., an updated CAM plan) from PPLM. To address administrative notifications and substantive changes to the CAM plan, the Department made a determination that it was appropriate to re-issue the draft operating permit. This draft permit was assigned #OP0513-08. The Draft Title V Operating Permit #OP0513-08 was issued on August 10, 2012. The 30 day public comment period was set to end on September 10, 2012. On August 17, 2012, the Department received a request to extend the public



comment period on Draft Operating Permit #OP0513-08. The Department granted the request and approved a 14-day extension to the original 30-day public comment period on Draft Operating Permit #OP0513-08. In order to be considered, the comments on Draft Operating Permit #OP0513-08 were to be received by September 24, 2012. The Department has prepared responses to the comments received on Draft Title V Operating Permit #OP0513-08 and they are included in Section VII of this document.

**Operating Permit #OP0513-08** replaces Operating Permit #OP0513-06.

## E. Taking and Damaging Analysis

HB 311, the Montana Private Property Assessment Act, requires analysis of every proposed state agency administrative rule, policy, permit condition or permit denial, pertaining to an environmental matter, to determine whether the state action constitutes a taking or *damaging* of private real property that requires compensation under the Montana or U.S. Constitution. As part of issuing an operating permit, the Department is required to complete a Taking and Damaging Checklist. As required by Sections 2-10-101 through 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?
	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

## **F. Compliance Designation**

The PPLM - Colstrip facility was last inspected on December 20, 2011, with a Full Compliance Evaluation finalized on January 17, 2012. The report indicated that the facility was found to be in compliance with all applicable requirements.

## SECTION II. SUMMARY OF EMISSION UNITS

### A. Facility Process Description

PPLM operates Units 1, 2, 3, & 4 tangential coal-fired boilers and associated equipment for the generation of electricity.

### B. Emission Units and Pollution Control Device Identification

Emission Units ID	Description	Pollution Control Device/Practice
EU001	Unit #1 – Tangential Coal Fired Boiler	Wet Venturi Scrubber
EU002	Unit #2 – Tangential Coal Fired Boiler	Wet Venturi Scrubber
EU003	Unit #3 – Tangential Coal Fired Boiler	Wet Venturi Scrubber, advanced low NOx firing and digital controls for NOx control
EU004	Unit #4 – Tangential Coal Fired Boiler	Wet Venturi Scrubber, advanced low NOx firing and digital controls for NOx control
EU005	Auxiliary Propane Boiler (1 & 2)	None
EU006	Building Heating Boiler (3 & 4)	None
EU007	Coal Handling System (1 & 2)	Enclosed conveyors Dust suppressant Enclosed downspout with elevation doors Dustless transfer chutes (certain locations)
EU008	Coal Handling System – (silos, distribution bin, surge pile tunnel, crushing and sampling house, and vacuum cleaning system) (3 & 4)	Enclosed conveyors Dust suppressant Enclosed downspout with elevation doors Dustless transfer chutes (certain locations)
EU009	Coal Piles (Wind Erosion)	Sealant on some storage piles, Dust suppression system, Enclosures, Wind fence (one coal pile), Water application through sprays or water trucks
EU010	Emergency Diesel Generators	None
EU012	Lime Handling System	Pneumatic Unloading
EU013	Plant Roads	Dust suppressant is applied annually and water is applied as needed
EU014	Process Ponds	Material is wet
EU015	Underground Gasoline Tank	None
EU017	Tangential Coal Fired Units 1-4 Mercury Emissions	Mercury oxidizer/sorbent
EU018	Mercury Oxidizer/Sorbent Handling Systems (Units 1-4)	Bin Vent Filter

### C. Categorically Insignificant Sources/Activities

The following tables list the emission units included as insignificant in PPLM's operating permit.

Emissions Unit ID	Description
IEU01	Hydrazine Bulk Storage Tank Vent
IEU02	LPG Vaporizer
IEU03	Unit #1 Cooling Tower
IEU04	Unit #2 Cooling tower
IEU05	Unit #3 Cooling Tower
IEU06	Unit #4 Cooling Tower
IEU07	Waste Site
IEU08	Boiler Chemical Cleaning Process
IEU09	LPG System Safety Valves and Vents
IEU10	Process Tank Vents
IEU11	Process Ponds
IEU12	Boiler Chemical Cleaning Process
IEU13	Diesel Tanks
IEU14	Scrubber Relining Process

Cooling Towers #3 and #4 were included in the original operating permit application as insignificant emission units. The Department questioned this determination and requested information from MPC (currently PPLM). The facility submitted additional information on December 16, 1996, in response to a request for information on the operating permit application for Units 1 & 2, which included a statement that Units 1 & 2 do not use any chromium-based compounds in the cooling towers. This also holds true for Units 3 & 4. Since the cooling towers are not major sources or integral part of a major source as defined in Section 112(a)(1) of the Federal Clean Air Act, and chromium-based water treatments are not used, the Department agreed that the cooling towers are not subject to 40 CFR Part 63, Subpart Q. Therefore, IEU04, IEU05, IEU06, and IEU07 are considered insignificant emission units.

The Building Heating Boiler emissions unit was identified in the original application as insignificant, but has been determined to be a significant emissions unit. It has been determined to be significant because, if PPLM operates the Building Heating Boiler under the alternative operating scenario, there are specific applicable requirements. When PPLM is not operating the Building Heating Boiler, there are no emissions and the emissions unit is in compliance with all applicable requirements. PPLM is required to perform the necessary monitoring, recordkeeping, and reporting for all applicable requirements.

Two small propane fueled emergency backup generators were added to the insignificant unit list in Operating Permit #OP0513-02. The scrubber relining process was removed as an emitting unit and moved to the insignificant unit list in Operating Permit #OP0513-04.

### SECTION III. PERMIT CONDITIONS

#### A. Emission Limits and Standards

##### **Tangential Coal Fired Boilers 1&2 (EU001 and EU002)**

Units 1 & 2 (EU001 and EU002) are subject to 40 CFR Part 60, Subpart D – Standards of Performance for Fossil-Fuel-Fired Steam Generators for which Construction Commenced After August 17, 1971. Under this provision, EU001 and EU002 have a PM limit of 0.10 lb/MMBtu, a SO<sub>2</sub> limit of 1.2 lb/MMBtu heat input and a NO<sub>x</sub> limit of 0.7 lb/MMBtu heat input.

The Department determined 40 CFR Part 60, Subpart D requirements for the monitors to be less stringent than the requirements of the Acid Rain Provisions contained in 40 CFR Part 75. The basis of this position is that the monitors required by 40 CFR Part 60, Subpart D are used to indicate compliance. The monitoring requirements of this Operating Permit are to be used to determine compliance. The following sections of 40 CFR Part 60 are not included in the Operating Permit as applicable requirements: 40 CFR 60.45(c) and 40 CFR 60.13(a) through (g) and (i) through (j). These requirements are replaced with the requirements contained in 40 CFR Part 75 and PPLM is required to demonstrate compliance using the 40 CFR Part 75 CEMS for SO<sub>2</sub>, NO<sub>x</sub>, and opacity.

Units 1 & 2 are subject to 40 CFR Part 60, Subpart Y – Standards of Performance for Coal Preparation Plants. The facility shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements in Subpart Y. Subpart Y affected sources include the truck dump station, the lime silo bin vent, and any other affected source constructed or modified after October 24, 1974.

The Phase II permit requirements for SO<sub>2</sub> have been included in this Operating Permit.

##### NO<sub>x</sub> History

MPC (currently PPLM) submitted a Phase I Permit Application, NO<sub>x</sub> Compliance Plan to EPA Region VIII in August 1996. The application was submitted in accordance with the requirements of 40 CFR 76.9 for an early election unit with a deadline of submittal of January 1, 1997. Units 1 & 2 are Group 1, Phase II boilers. MPC (currently PPLM) was required to comply with the emission limit of 0.45 lb/MMBtu of heat input on an annual average basis for tangentially fired boilers (40 CFR 76.5) beginning with January 1, 1997, emissions and ending with December 31, 2007.

In accordance with 40 CFR 76.8(d)(1)(ii), EPA was responsible for issuing the early NO<sub>x</sub> reduction permit. The state has not been delegated this authority. Under 40 CFR 72.73(b)(2), the Department was required to include, not later than January 1, 1999, the acid rain permit requirements for nitrogen oxides. PPLM, under 40 CFR 76.9(b), submitted a Phase II NO<sub>x</sub> permit application by January 1, 1998.

On January 1, 2008, the early election plan expired and PPLM became subject to the NO<sub>x</sub> limitations for Group I, Phase II boilers under 40 CFR 76.7.

### **Tangential Coal Fired Boilers 3 & 4 (EU003 and EU004)**

In the original permit application, PPLM identified the exhaust gas temperature, (190°F) and the limit of 1.225 lb/MMBtu on SO<sub>2</sub> emissions as applicable requirements for EU003 and EU004. The minimum exhaust gas temperature and this SO<sub>2</sub> limit were not identified in any air quality permits issued by the Department or by the EPA for EU003 or EU004. These requirements come from the certificate issued as part of the Major Facility Siting Act (MFSA). The Department does not consider these requirements as applicable requirements for operating permit purposes. The MFSA certificate required the Department to issue an MAQP. Based on this, the Department's position is that all the applicable requirements for operating permit purposes are contained in the MAQP.

PPLM's EU003 and EU004 are subject to 40 CFR 60.40 (Subpart D) since construction of the units began after 1971 and before September 18, 1978.

The Department determined Subpart D requirements for the monitors to be less stringent than the requirements of the Acid Rain Provisions contained in 40 CFR Part 75. The basis of this position is that the monitors required by 40 CFR Part 60, Subpart D are used to indicate compliance. The monitoring requirements of this Operating Permit are to be used to determine compliance. The following sections of 40 CFR Part 60 are not included in the Operating Permit as applicable requirements: 40 CFR 60.45(c) and 40 CFR 60.13(a) through (g) and (i) through (j). These requirements are replaced with the requirements contained in 40 CFR Part 75 and PPLM is required to demonstrate compliance using the Part 75 CEMS for SO<sub>2</sub>, NO<sub>x</sub>, and opacity.

The Department has determined the monitoring requirements contained in Appendix III of the EPA PSD permit issued September 11, 1979, and Sections II.C.1.e., II.C.2., II.E.1., and II.E.2. in MAQP #1187-03 issued October 13, 1996, are duplicate requirements. The Department has determined compliance with 40 CFR Part 75 will be compliance with these requirements for the SO<sub>2</sub>, NO<sub>x</sub>, and opacity monitors.

The Phase II permit requirements for SO<sub>2</sub> have been included in this Operating Permit.

#### NO<sub>x</sub> History

MPC (currently PPLM) submitted a Phase I Permit Application, NO<sub>x</sub> Compliance Plan to EPA Region VIII in August 1996. The application was submitted in accordance with the requirements of 40 CFR 76.9 for an early election unit with a deadline of submittal of January 1, 1997. Units 3 & 4 are Group 1, Phase II boilers. MPC (currently PPLM) was required to comply with the emission limit of 0.45 lb/MMBtu of heat input on an annual average basis for tangentially fired boilers (40 CFR 76.5) beginning with January 1, 1997, emissions and ending with December 31, 2007.

In accordance with 40 CFR 76.8(d)(1)(ii), EPA was responsible for issuing the early NO<sub>x</sub> reduction permit. The state has not been delegated this authority. Under 40 CFR 72.73(b)(2), the Department was required to include, not later than January 1, 1999, the acid rain permit requirements for nitrogen oxides. MPC (currently PPLM), under 40 CFR 76.9(b), submitted a Phase II NO<sub>x</sub> permit application by January 1, 1998.

On January 1, 2008, the early election plan expired and PPLM became subject to the NO<sub>x</sub> limitations for Group I, Phase II boilers under 40 CFR 76.7.

### **Auxiliary Propane Boiler (EU05)**

PPLM is required to notify the Department of both start up and shut down of the auxiliary propane heater. At the time of draft issuance of #OP0513-08, this unit would be subject to provisions of 40 CFR Part 63, Subpart DDDDD (see Section V.A for more information regarding this regulation).

### **Building Heater Boiler (EU06)**

PPLM is required to notify the Department of both start up and shut down of the building heater boiler. At the time of draft issuance of #OP0513-08, this unit would be subject to provisions of 40 CFR Part 63, Subpart DDDDD (see Section V.A for more information regarding this regulation).

No other emission units at the facility contain source specific emissions limits or conditions.

### **Emergency Diesel Generators (EU10)**

This emitting unit is subject to provisions of 40 CFR Part 63, Subpart ZZZZ.

### **Tangential Coal Fired Units 1-4 Mercury Emissions**

New mercury control requirements implemented under the preconstruction permitting program have required that PPLM obtain an MAQP to include mercury provisions under the Administrative Rules of Montana (ARM) 17.8.771 for the Colstrip Plant. On April 9, 2009, the Department issued MAQP #0513-07 with the following mercury limits and operating requirements, which are also reflected in Section III.L of Operating Permit #OP0513-05:

- Beginning January 1, 2010, facility-wide emissions of mercury (Hg) shall not exceed 0.9 pounds per trillion British thermal units (lb/TBtu), calculated as a rolling 12-month average (ARM 17.8.771).
- On each Unit 1-4, PPLM shall install a mercury control system that oxidizes and sorbs emissions of mercury. PPLM shall implement the operation and maintenance of mercury control systems on or before January 1, 2010 (ARM 17.8.771).

## **B. Monitoring Requirements**

ARM 17.8.1212(1) requires that all monitoring and analysis procedures or test methods required under applicable requirements are contained in Operating Permits. In addition, when the applicable requirement does not require periodic testing or monitoring, a permit must require periodic monitoring that is sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit.

The requirements for testing, monitoring, recordkeeping, reporting, and compliance certification sufficient to assure compliance do not require the permit to impose the same level of rigor for all emission units. Furthermore, they do not require extensive testing or monitoring to assure compliance with the applicable requirements for emission units that do not have significant potential to violate emission limitations or other requirements under normal operating conditions. When compliance with the underlying applicable requirement for an insignificant emissions unit is not threatened by lack of regular monitoring and when periodic testing or monitoring is not otherwise required by the applicable requirement, the status quo (**i.e., no monitoring**) will meet the requirements of ARM 17.8.1212(1). Therefore, the permit does not include monitoring for insignificant emission units.

This permit includes periodic monitoring or recordkeeping for each applicable requirement. The information obtained from the monitoring and recordkeeping will be used by PPLM to periodically certify compliance with the emission limits and standards. However, the Department may request additional testing to determine compliance with the emission limits and standards.

Units 1-4 are required to maintain CEMS for SO<sub>2</sub>, NO<sub>x</sub>, CO<sub>2</sub>, and opacity. In addition, the Department determined continuous monitoring is also required for stack gas temperature, stack gas moisture (where necessary), megawatt production, and Btu per hour (as a function of heat rate and megawatt production). Units 1-4 are also required to maintain Mercury Emissions Monitoring Systems (MEMS) for mercury as of January 1, 2010.

The Department determined that fugitive emission units located at the facility require weekly visual inspections. The method of demonstrating compliance includes a requirement to observe specific sites and to log the information. The log will be kept at the plant site and be available for review during inspections. The compliance demonstration requires verification that visual inspections were performed and they were recorded and a log maintained.

### **C. Test Methods and Procedures**

The operating permit may not require testing for all sources if routine monitoring is used to determine compliance, but the Department has the authority to require testing if deemed necessary to determine compliance with an emission limit or standard. In addition, the permittee may elect to voluntarily conduct compliance testing to confirm its compliance status.

### **D. Recordkeeping Requirements**

The permittee is required to keep, as a permanent business record, for at least five years following the date of the generation of the record, each record listed in the operating permit. All source test recordkeeping shall be performed in accordance with the Montana Source Test Protocol and Procedures Manual.

### **E. Reporting Requirements**

Reporting requirements are included in the permit for each emissions unit, and Section V of the Operating Permit "General Conditions" explains the reporting requirements. However, PPLM is required to semi-annual and annual monitoring reports to the Department, and to annually certify compliance with the applicable requirements contained in the permit. The reports must include a list of all emission limit and monitoring deviations, the reason for any deviation, and the corrective action taken as a result of any deviation. PPLM is also required to submit quarterly reports as required by Section III.B, III.C, and Appendices E, F, G, H, I, and J of Operating Permit #OP0513-08.

### **F. Public Notice**

In accordance with ARM 17.8.1232, a public notice was published in the *Billings Gazette* newspaper on or before May 17, 2011, for the draft issuance of Operating Permit #OP0513-07. The Department provided a 30-day public comment period on that draft operating permit from May 17, 2011, to June 16, 2011. ARM 17.8.1232 requires the Department to keep a record of both comments and issues raised during the public participation process.

The Department received comments from PPLM, Earthjustice on behalf of the Montana Environmental Information Center (MEIC) and the Sierra Club, WildEarth Guardians, and the Northern Plains Resource Council (NPRC). Pursuant to ARM 17.8.1232(3), all comments received during the public comment period were forwarded to PPLM to provide an opportunity to review and



offer responses. PPLM submitted information, dated July 12, 2011, outlining responses to comments received by the Department on the draft permit. The Department summarized all of the comments received during the 30-day public comment period and prepared a response to each of them. These responses prepared by the Department are included in Section VI of this document.

As discussed previously in this document, the Department reissued the draft permit and, in accordance with ARM 17.8.1232, a public notice was published in the *Billings Gazette* and the *Forsyth Independent Press* newspapers on or before August 10, 2012, providing a 30-day public comment period for any member of the public, including representatives of the facility. This public comment period was set to end on September 10, 2012.

On August 17, 2012, the Department received a request to extend the public comment period on Draft Operating Permit #OP0513-08. The Department granted this request and approved a 14-day extension to the original 30-day public comment period on Draft Operating Permit #OP0513-08. A public notice of this comment period extension was published in the *Billings Gazette* newspaper on August 22, 2012, and in the *Forsyth Independent Press* newspaper on or before August 23, 2012. The updated public comment period allowed for comments to be received August 10, 2012 to September 24, 2012.

ARM 17.8.1232 requires the Department to keep a record of both comments and issues raised during the public participation process. The Department summarized the comments received on Draft Operating Permit #OP0513-08 and prepared a response to each of them. These responses prepared by the Department are included in Section VII of this document.

On October 17, 2012, the Department provided a 45-day review period on the proposed permit to the EPA. No comments were received.

#### **SECTION IV. NON-APPLICABLE REQUIREMENTS**

The Department reviewed the rules and regulations contained in Section 8 of the original application that PPLM identified as non-applicable. The Department included those rules and regulations that it agreed were non-applicable to Units 3 & 4 in the Operating Permit in Section IV along with the reasons for non-applicability.

The Department did not, however, include as non-applicable all of the rules or regulations identified by PPLM. Rules and regulations that address procedural requirements and those that do not establish emission limits or applicable requirements on the facility were not included.

40 CFR Part 60, Subpart Da is not applicable because construction of the facility began prior to September 18, 1978, except the CEMS for Units 3 & 4 were determined to be subject to this NSPS.

## SECTION V. OTHER CONSIDERATIONS

### A. MACT Standards (40 CFR Part 63)

PPLM's Colstrip facility is subject to the standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR Part 63, Subpart DDDDD – *National Emissions Standards for Hazardous Air Pollutants for Major Industrial Sources: Industrial Commercial, and Institutional Boilers and Process Heaters (the "Boiler MACT")* because the facility includes an existing 197.5 MMBtu/hr auxiliary boiler for Units 1 & 2 and an existing 107.4 MMBtu/hr building heating boiler for Units 3 & 4. The current compliance date is March 21, 2014; however, EPA is working through efforts at reconsideration of the Boiler MACT at this time.

PPLM's Colstrip facility is subject to the standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR Part 63, Subpart ZZZZ – *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* because the facility includes an existing 1340-brake horsepower (bhp) paste plant emergency generator for Units 1 & 2, an existing 1502-bhp paste plant emergency generator for Units 3 & 4, and an existing 40-bhp security building emergency generator.

On February 16, 2012, EPA finalized the Mercury Air Toxics Standard (MATS) rule, also known as the Utility MACT, which was promulgated under 40 CFR Part 63, Subpart UUUUU – *National Emission Standards for Hazardous Air Pollutants: Coal and Oil-Fired Electric Utility Steam Generating Units*. PPLM's Colstrip facility is an affected source pursuant to this MACT standard, which has a compliance date of April 16, 2015.

### B. NESHAP Standards (40 CFR Part 61)

As of the issuance of this permit, the Department is unaware of any proposed or pending NESHAP standards, in addition to those that are listed, that are applicable to this facility.

### C. NSPS Standards

As of the issuance date of this permit, the Department is unaware of any future NSPS Standards that may be promulgated that will affect this facility.

### D. Risk Management Plan

A Risk Management Plan as defined in 40 CFR Part 68 is required for Units 1 & 2 and Units 3 & 4. The facility must comply with 40 CFR Part 68 requirements no later than June 21, 1999; 3 years after the date on which a regulated substance is first listed under 40 CFR 68.130; or the date on which a regulated substance is first present in more than a threshold quantity in a process, whichever is later.

### E. Compliance Assurance Monitoring (CAM) Plan

An emitting unit located at a Title V facility that meets the following criteria listed in ARM 17.8.1503 is subject to ARM Title 17, chapter 8, subchapter 15 and must develop a CAM Plan for that unit:

- The emitting unit is subject to an emission limitation or standard for the applicable regulated air pollutant (unless the limitation or standard is exempt under ARM 17.8.1503(2));
- The emitting unit uses a control device to achieve compliance with such limit; and
- The emitting unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than major source thresholds.

The PPLM Costrip facility meets the above criteria for particulate matter (PM). Refer to Appendix I of Operating Permit #OP0513-08 for a summary of the PM CAM plan.

#### **F. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule**

On May 7, 2010, EPA published the “light duty vehicle rule” (Docket # EPA-HQ-OAR- 2009-0472, 75 FR 25324) controlling greenhouse gas (GHG) emissions from mobile sources, whereby GHG became a pollutant subject to regulation under the Federal and Montana Clean Air Act(s). On June 3, 2010, EPA promulgated the GHG “Tailoring Rule” (Docket # EPA-HQ-OAR-2009-0517, 75 FR 31514) which modified 40 CFR Parts 51, 52, 70, and 71 to specify which facilities are subject to GHG permitting requirements and when such facilities become subject to regulation for GHG under the PSD and Title V programs.

Under the Tailoring Rule, any PSD action (either the construction of a new major stationary source or a major modification at a major stationary source) taken for a pollutant or pollutants other than GHG that would become final on or after January 2, 2011, would be subject to PSD permitting requirements for GHG if the GHG increases associated with that action were at or above 75,000 TPY of carbon dioxide equivalent (CO<sub>2</sub>e) and greater than 0 TPY on a mass basis. Similarly, if such action were taken, any resulting requirements would be subject to inclusion in the Title V Operating Permit. Facilities that hold Title V permits due to criteria pollutant emissions over 100 TPY would need to incorporate any GHG applicable requirements into their operating permits for any Title V action that would have a final decision made on or after January 2, 2011.

Starting on July 1, 2011, PSD permitting requirements would be triggered for a modification that was determined to be major under PSD based on GHG emissions alone, even if no other pollutant triggered a major modification. In addition, a source that is not considered a PSD major source based on criteria pollutant emissions would become subject to PSD review if its facility-wide potential emissions equaled or exceeded 100,000 TPY of CO<sub>2</sub> equivalent (CO<sub>2</sub>e) and 100 or 250 TPY of GHG on a mass basis depending on its listed status in ARM 17.8.801(22) and it undertook a permitting action with increases of 75,000 TPY or more of CO<sub>2</sub>e and greater than 0 TPY of GHG on a mass basis. With respect to Title V, a source not currently holding a Title V permit that has potential facility-wide emissions equal to or exceeding 100,000 TPY of CO<sub>2</sub>e and 100 TPY of GHG on a mass basis would be required to obtain a Title V Operating Permit.

PPLM is currently subject to PSD permitting in that this facility is a listed source and has a PTE of 100 TPY or more of pollutants subject to regulation under the Federal Clean Air Act. GHG must be analyzed along with all criteria pollutants for any permitting action to determine if that action is a major modification and subject to PSD permitting. The Department, upon receiving a de minimis request, modification, or other future permitting action, will request such information as needed to determine PPLM’s GHG emissions. Any applicable GHG requirements, including those that develop as a result of a PSD permitting action, will be incorporated into the Title V permit.

#### **G. Regional Haze**

One of the principal elements of the visibility protection provisions of the FCAA is the provision in 42 U.S.C. Sec. 7491 addressing the installation of Best Available Retrofit Technology (BART) for certain existing sources. The FCAA defines the sources potentially subject to BART as major stationary sources, including reconstructed sources, from one of 26 identified source categories which have the potential to emit 250 tons per year or more of any air pollutant, and which were placed into operation between August 1962 and August 1977. Units 1 and 2 within the PPLM Colstrip facility were included under the list of sources potentially subject to BART.

On September 18, 2012, EPA adopted, as a final regulation, revisions to 40 CFR Part 52, Approval and Promulgation of Implementation Plans; State of Montana; State Implementation Plan and Regional Haze Federal Implementation Plan (FIP). See 77 FR 57863-57919. The final rule is effective October 18, 2012. The EPA promulgated the FIP to address regional haze in the State of Montana and this final rule making will affect the PPLM Colstrip facility. Within the rule, compliance with BART PM limitations, specifically for Units 1 and 2, must be achieved by November 17, 2012. Compliance with specific SO<sub>2</sub> and NO<sub>x</sub> limitations set forth within the FIP must be achieved within 180 days after the effective date of the FIP where installation of additional controls is not necessary to comply with the BART limit; otherwise the compliance deadline is five years after the effective date of the FIP. For Units 1 and 2, additional controls will be necessary to comply with the SO<sub>2</sub> and NO<sub>x</sub> limitations; therefore, the compliance date is October 18, 2017 for those pollutants.

Construction of Units 3 and 4 fell outside the applicability timeframe identified within the CAA; therefore, a BART analysis was unnecessary for these particular units at this time. In addition, EPA did not require emission limits or controls pursuant to the Reasonable Progress portion of the Regional Haze FIP for Units 3 and 4.

**SECTION VI. DRAFT PERMIT #OP0513-07  
SUMMARIZED COMMENTS AND DEPARTMENT RESPONSES**

The following comments were received during the 30-day public comment period provided following the issuance of Draft Operating Permit #OP0513-07 (issued May 17, 2011). As a note to the reader, all references to specific permit condition numbers within the text of the comments pertain to Draft Operating Permit #OP0513-07. Various changes incorporated into Draft Operating Permit #OP0513-08 may have resulted in changes in condition numbering.

**1. Colstrip Has Unaddressed Continuing Opacity Violations Necessitating a Compliance Plan.  
PERMIT SECTION and/or TOPIC: Conditions III.B.1 & C.1**

COMMENT: The draft operating permit is insufficient to assure Colstrip's compliance with visible emission limits in light of repeated and ongoing violations of the facility's opacity limits. DEQ must include the compliance schedule for opacity standards and monitoring requirements in the Colstrip operating permit or fully explain why such a compliance schedule is not necessary. [Earthjustice (MEIC/Sierra Club) 6/16/2011]

DEPARTMENT RESPONSE: The Department has determined that none of the violations that have been addressed at the PPLM Colstrip facility need to be addressed in the Title V permit. Each of the violations has been reviewed and a determination has been made by the Department as to the appropriate course of action for dealing with the violation. Actions have been taken by PPLM to address the violations asserted by the Department. All of PPLM's opacity exceedances have been reviewed by the Department and determined to be isolated and infrequent. The exceedances do not qualify as "on-going" violations and do not require a compliance schedule.

To further expand on the infrequency of these opacity exceedances, the Department has calculated the opacity compliance rate for Colstrip Units 1-4 for the last five complete years (2007-2011). The data from the opacity monitors has demonstrated compliance 99.9% of the total operating time during this period.

**2. Monitoring of Particulate Matter Is Inadequate.  
PERMIT SECTION and/or TOPIC: Conditions III.B.2, C.2, & C.3**

COMMENT: The draft operating permit fails to require monitoring of particulate matter ("PM") sufficient "to assure compliance with the permit terms." A 3-hour annual stack test is insufficient to demonstrate continuous, or even hourly compliance with PM limits expressed in either lb/MMBtu or lb/hr. The frequency of monitoring must bear some relationship to the time period for the emission limits established in the permit. Based on the continuous monitoring data and consistent with the instantaneous PM limit, the permit must require a compliance demonstration for all 8,760 hours in the year, not just the three hours required to perform a Method 5 or 5b stack test. Additionally, Method 5 and 5b are inappropriate test methods for demonstrating compliance with limits on total PM emissions, including both filterable and condensable particles. Condensable PM can be a significant portion of a facility's emissions of PM<sub>2.5</sub>. Methods 5 and 5b test for filterable PM only; they are not designed to test for emissions of condensable PM. DEQ must require additional monitoring for condensable particulate, using test methods such as Method 202 or a combination of Methods 202 and 201A. Because PM test methods 5 and 5b do not test for condensable PM, they are incapable of "assur[ing] compliance" with permit limits on total PM and gaseous emissions of PM precursors. DEQ must require substitute or supplemental monitoring that accurately identifies condensable PM and total PM emissions. [Earthjustice (MEIC/Sierra Club) 6/16/2011]

DEPARTMENT RESPONSE: The commenter alludes to a necessity of requiring continuous PM monitoring for all 8,760 hours in the year. The Department has reviewed EPA's response to this issue for further guidance on the implementation of continuous PM monitoring. Within EPA's Order Responding to Petitioner's Request that the Administrator Object to Issuance of a State Operating Permit (Petition

Number: VIII-2009-01),<sup>1</sup> EPA indicated that "A title V permit must include all applicable requirements. See 40 C.F.R. 70.5(c)(4). It must also include monitoring necessary to assure compliance with applicable requirements. See FCAA 42 USC § 7661c(a); see also 40 CFR 70.6(c)(1). Petitioner fails to identify any applicable requirement that requires the use of PM CEMS for monitoring compliance with the PM limit. Petitioner also has not alleged or demonstrated that PM CEMS are the only monitoring that can assure compliance with the PM limit and therefore must be included in the title V permit." EPA further stated that "Petitioner fails to demonstrate that PM CEMS is required as an applicable requirement or as monitoring necessary to assure compliance with an applicable requirement. Therefore, I deny the petition on the issue that the Hayden Power Station title V permit must include PM CEMS to assure compliance with the boilers' PM limit." The Department concurs with EPA's finding and finds this language applicable in response to the comment.

Section III.B of the permit covers emitting units EU001 and EU002 - Tangential Coal Fired Units 1 & 2. These units are subject 40 CFR Part 60, Subpart D (Subpart D) and thus have an established PM limit. The PM limits established under Subpart D were determined to be "front-half" only PM limits in the finalization of the standard. In a January 27, 1998, document written by Michael Pjetraj of the North Carolina Department of Air Quality entitled "*Condensable Particulate Matter Regulatory History and Proposed Policy*". The document discusses the regulatory history of Subpart D:

*"When the EPA was mandated to develop emission standards for industries generating significant amounts of pollution, the EPA identified particulate matter as one of the regulated pollutants. In August of 1971, the EPA proposed emission standards for five source categories: Fossil Fuel Fired Steam Generators, Incinerators, Portland Cement Plants, Nitric Acid Plants, and Sulfuric Acid Plants. Limits for particulate matter emissions were proposed for three of the five initial New Source Performance Standard (NSPS) subparts and the test method to demonstrate compliance for these sources was also proposed.*

*The NSPS limits were developed from test data at multiple representative facilities. The initial tests were performed using a particulate method that would quantify the filterable and condensable particulate matter separately. The summation of these two values was then termed the total particulate catch. When the initial particulate limits were proposed, the limit was based on total particulate data. During the rule making comment period, there was dissent regarding the use of the condensable catch. One primary dissenting argument was that the SO<sub>2</sub> emissions would be quantified in the condensable fraction of the sampling train, thus double counting the SO<sub>2</sub> emissions. Also, arguments were presented that condensable emissions were a non-predictable phenomenon, and therefore, could not be predictably controlled. In December of 1971, the EPA promulgated the initial NSPS limits for particulate and the corresponding test method. The promulgated Method 5 particulate matter test method omitted the analysis of the condensable catch and measured only the filterable particulate. To compensate for the exclusion of condensable particulate matter, the promulgated NSPS standards for particulate matter emissions from steam generators and incinerators were decreased.*

*Federal Register (FR) 12/23/71: Preamble to the Promulgated NSPS & Method 5*  
*"Particulate matter performance testing procedures have been revised to eliminate the requirement for impingers in the sampling train. Compliance will be based only on material collected in the dry filter and the probe preceding the filter. Emission limits have been adjusted as appropriate to reflect the change in test methods. The adjusted standards require the same degree of particulate control as the originally proposed standards."*

*FR 3/21/72: Supplemental Statement in Connection with Final Promulgation:*  
*"There has been only limited sampling with the full EPA train such that the occasional anomalies cannot be explained fully at this time. Accordingly, we determined that, for the*

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1 In the matter of Public Service Company of Colorado, dba Xcel Energy, Hayden Station, Permit Number: 96OPRO132, Issued by the Colorado Department of Public Health and Environment, Air Pollution Control Division. Signed March 24, 2010.

three affected source categories, steam generators, incinerators, and cement plants, particulate standards should be based on the front half of the EPA sampling train with mass emission limits adjusted as follows:

	<i>Originally proposed particulate standards, full EPA train</i>	<i>Recommended particulate standards revised sample method (front half only)</i>
<i>Steam Generators (lb/mmBtu)</i>	<u>0.20</u>	<u>0.10</u>
<i>Incinerators (gr/dscf at 12% CO<sub>2</sub>)</i>	<u>0.10</u>	<u>0.08</u>
<i>Cement Kilns (lbs / ton feed)</i>	<u>0.30</u>	<u>0.30</u>
<i>Cement Coolers (lbs / ton feed)</i>	<u>0.10</u>	<u>0.10</u>

Similarly, Units 3 & 4 are also subject to Subpart D. The particulate limits for those units were established in the original EPA PSD permitting action dated September 11, 1979. The compliance determining method for the PM limits was listed as “shall be as provided for in 40 CFR 60, Appendix A, Method 5,” confirming that the limits were for filterable PM emissions only. The PM limits were established under the PSD BACT requirements (with the NSPS requirements under Subpart D being the “floor” for BACT consideration). Further, in its response to comments on the September 11, 1979 permit, EPA explained its basis for the numeric PM limitation and how it compares to the front-half only limit that was promulgated under 40 CFR 60, Subpart Da, the next iteration in NSPS. If the BACT limit was intended to include both filterable and condensable fractions, there would be no basis for comparison with the NSPS.

Thus since the limits under Subpart D was established with the assumption of “front-half” or filterable PM emissions only the Department has maintained the requirement to use Method 5 “front-half” only testing on Units 1 & 2 and 3 & 4.

While Method 5 alone may not derive a continuous measurement of compliance with the PM emission limitation, the Department believes an accurate representation of PM concentrations is derived through the testing frequency along with the use of other methods of PM monitoring and control measures including opacity limitations. The use of COMS, quality control and quality assurance according to the requirements outlined within PPLM’s CAM plan, as well as scrubber operation and maintenance in accordance with manufacturer/vendor recommendations, modified per PPLM’s operational experience. PPLM’s CAM plan has been revised since the first draft issuance of Operating Permit #OP0513-07 to incorporate additional performance indicators (i.e. plumb bob pressure drop ( $\Delta P$ ) and venturi spray flows) to demonstrate quality control and verification of proper control of particulate matter.

### **3. The Startup, Shutdown, and Malfunction Plan Must Be Included with Permit and Subject to Public Review.**

#### **PERMIT SECTION and/or TOPIC: Condition III.A.14**

**COMMENT:** The draft permit requires PPLM to submit “a copy of any startup, shutdown, and malfunction (SSM) plan required under 40 CFR § 63.6(e)(3) within 30 days of the effective date of this operating permit.” DEQ’s failure to require submission of the SSM plan prior to issuing the title V permit is improper because it abrogates DEQ’s duty to assure compliance with federal requirements to minimize hazardous air pollutant emissions. Because DEQ relies on the SSM plans for Units 1-4 to assure compliance and to define permit terms, the plans must be provided in the title V permit application and be reviewed with the title V permit. In addition, the SSM plan must be made available for public review with the draft title V operating permit to allow [the public] to determine whether the plan is sufficient to ensure compliance, or even to discern the permit terms. [Earthjustice (MEIC/Sierra Club) 6/16/2011]



DEPARTMENT RESPONSE: Section III.A.14 of draft OP0513-07 states, “Pursuant to ARM 17.8.342 and 40 CFR 63.6, PPLM shall submit to the Department a copy of any startup, shutdown, and malfunction (SSM) plan required under 40 CFR 63.6(e)(3) within 30 days of the effective date of this operating permit (if not previously submitted), within 30 days of the compliance date of any new National Emission Standard for Hazardous Air Pollutants (NESHAPs) or Maximum Achievable Control Technology (MACT) standard, and within 30 days of the revision of any such SSM plan, when applicable. The Department requests submittal of such plans in electronic form, when possible.” Therefore, the Department is not “deferring submission... of an SSM plan until after a title V operating permit is issued.” Because many Title V sources were subject to MACT standards and the requirement to develop SSM plans when Part 63 was changed to require making such plans available upon request (the General Provisions of Part 63 were first updated to include this concept in May of 2003), that wording was included in all Title V Operating Permits issued by the Department to require submittal of those plans that had not been previously submitted or been required to be submitted. It was not intended to “defer,” nor has it “deferred,” those requirements. For facilities subject to Title V that subsequently also became subject to a MACT standard that required compliance with the SSM requirements, the SSM plan would be required to be submitted within 30 days of the compliance date of that particular MACT. Because the PPLM Colstrip facility is currently subject to 40 CFR 63, Subpart ZZZZ (compliance date of May 3, 2013), that would be the initial MACT triggering that requirement. Therefore, the MACT SSM plan for Subpart ZZZZ, under Section III.A.14, would be required to be submitted by June 2, 2013. As requested, and as required by 40 CFR 63.6(e)(3)(v), the Department will provide to MEIC and Earthjustice the SSM plan pursuant to 40 CFR 63, Subpart ZZZZ for the PPLM – Colstrip facility following its submittal. The Boiler MACT (40 CFR 63, Subpart DDDDD) and the Utility MACT (40 CFR 63, Subpart UUUUU) have subsequent compliance dates and the respective SSM plans would also be subject to this requirement.

With respect to SSM plans being “available for review during the Title V public comment process,” implying that the SSM plans themselves would be open to public comment, 40 CFR Part 63 is very clear that such plans are not open to public comment. 40 CFR 63.6(e)(3)(ix) states,

“The title V permit for an affected source must require that the owner or operator develop a startup, shutdown, and malfunction plan which conforms to the provisions of this part, but may do so by citing to the relevant subpart or subparagraphs of paragraph (e) of this section. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under part 70 or part 71 of this chapter and the elements of the startup, shutdown, and malfunction plan shall not be considered an applicable requirement as defined in § 70.2 and § 71.2 of this chapter. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act [42 U.S.C. 7661c(f)].”

The petition cited by the commenters, “WE Energies Oak Creek Power Plant, Order Responding to Request that the Administrator Object to Issuance of a State Operating Permit, at 24-25” does not refer to SSM plans as required by 40 CFR Part 63. In addition, the startup shutdown plans referenced by the petitioners have different associated issues with respect to determining applicability of or exemptions from conditions in the permit.

SSM plans required by 40 CFR Part 63 do not determine applicability or exemptions with respect to MACT standards; they provide procedures to follow in the event of startup, shutdown, or malfunction events. The comment states: “In addition, the SSM plan must be made available for public review with the draft title V operating permit to allow the public to determine whether the plan is sufficient to ensure compliance, or even to discern the permit terms.” The permit terms (the MACT in this case) and the compliance requirements for that MACT do not change and are not in question, regardless of the contents of the SSM plan.

#### **4. The MEMS Monitoring Plan Must Be Included with Permit and Subject to Public Review.**

##### **PERMIT SECTION and/or TOPIC: Conditions III.L.1 & L.2**

COMMENT: The draft title V operating permit lacks assurances that mercury emissions limits in conditions L.1 & L.2 are applicable to Units 1-4. The permit improperly defers details regarding the MEMS, including a description of how the MEMS will assure compliance with mercury emissions limits, to a “MEMS Monitoring Plan” that PPLM must submit to DEQ at a later date. Because the MEMS Monitoring Plan provides essential details of how Colstrip Units 1-4 will attain and demonstrate compliance with mercury limits—details currently lacking from the draft operating permit—the plan must be included in the permit application and final permit. In addition, because the requirement to prepare and submit a MEMS Monitoring Plan was first contained in MAQP #0513-07 which was final as of April 9, 2009, the monitoring plan should be complete by now. The MEMS Monitoring Plan must be available for review during the title V public comment process. [Earthjustice (MEIC/Sierra Club) 6/16/2011]

DEPARTMENT RESPONSE: As requested, the Department will provide to MEIC and Earthjustice the MEMS plan under separate cover and is open to discussion if the commenters have additional comments or questions regarding the MEMS plan. However, the Department does not agree that it needs to be attached to the permit (and “included in the permit application and final permit”). The mercury emission and monitoring requirements are applicable requirements pursuant to ARM 17.8.771, which invokes 40 CFR Part 75 with respect to MEMS. The MEMS plan was originally required in MAQP #0513-07 in Attachment 2, which is also contained in #OP0513-07, Appendix J. The issuance of MAQP #0153-07 and Attachment 2 included the availability of a public comment period during the permitting process. Part 75 was included to be consistent with the Federal Clean Air Mercury Rule (CAMR), now vacated. During Montana’s mercury rule making process, numerous stakeholders stressed the need to keep the monitoring provisions consistent with those being required on a national level. However, a significant part of the CAMR provisions were dedicated to a mercury market trading system and monitoring provisions associated with that, similar to the Acid Rain trading provisions. For the purposes of determining allowances and compliance with allowances, there are additional monitoring provisions required in Part 75, which are not relevant to compliance with the emission limitations required under ARM 17.8.771. Because of those additional complexities (and the overall complexity of MEMS beyond traditional emissions monitors, NOx, SO<sub>2</sub>, etc.) and to clarify for the public and affected facilities the specific monitoring requirements, Department permitting and compliance staff worked with affected industry on the requirements housed in Attachment 2 of MAQP #0513-07 for PPLM. The MEMS plans required under Attachment 2 are specific to the type of monitors being used and describe how Part 75 is being met with those monitors, as do similar plans for COMS, SO<sub>2</sub> CEMS, etc. Such plans do not “determine applicability of or exemptions from conditions in the permit” as described in the petition cited by the commenters, “WE Energies Oak Creek Power Plant, Order Responding to Request that the Administrator Object to Issuance of a State Operating Permit, at 24-25.”

In addition, to include/attach such plans to Title V permits would require a modification or amendment to the Title V permit when any part of the MEMS plan was altered. As previously stated, the plans will be available upon request but do not need to be attached or available at any opening of the respective Title V permit.

#### **5. Monitoring of Auxiliary Propane Boiler Emissions is Inadequate.**

##### **PERMIT SECTION and/or TOPIC: Conditions III.D.1 through D.8**

COMMENT: The draft title V operating permit contains limits on opacity and PM emissions from the auxiliary propane boiler for Units 1 & 2, yet it requires no pollution control devices to be installed on the unit nor does it require any regular compliance monitoring. Instead, the permit requires PPLM to “burn propane in the emission unit while in operation to monitor compliance with the emissions limits in Section III.D.2, 3, 4, and 5”. Method 9 and Method 5 are additionally identified as compliance methods for opacity and PM limits respectively, the permit does not establish the frequency of such tests, which would be conducted only “[a]s required by the Department.” Draft Permit, condition D.8. DEQ should require continuous emissions monitoring for opacity and PM. 40 C.F.R. § 70.6(a)(3)(i)(B) (if an applicable requirement contains no periodic monitoring, permitting authorities must add “periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source’s compliance with the permit”). DEQ has failed to explain either in the draft permit or in the

technical review document how burning propane in a propane boiler assures compliance with opacity and PM emissions limits for the unit. DEQ must require monitoring sufficient to demonstrate compliance with opacity and PM emissions limits and document the adequacy of that monitoring requirement in the technical review document or statement of basis. [Earthjustice (MEIC/Sierra Club) 6/16/2011]

**DEPARTMENT RESPONSE:** Section III.D.2 states “PPLM may not cause or authorize to be discharged into the atmosphere from the boiler, when in operation, visible emissions that exhibit an opacity of 20% or greater, unless specified elsewhere in this permit.” Section III.D.3 states “When the boiler is in operation, PM emissions from the boiler shall not exceed 0.28 lb/MMBtu.” Pollution control devices are not typical of an auxiliary propane boiler of this caliber as relatively low emission rates can be expected. Consequently, the BACT analysis for such units typically does not yield a requirement to add emission controls. Propane, commonly referred to as liquefied petroleum gas (LPG), consists of propane, propylene, butane and butylenes. According to AP-42, the only control system for NOx emissions developed for LPG combustion that has been demonstrated on a small commercial boiler, is Flue Gas Recirculation (FGR). Because the boiler is an existing unit, a retrofit would be necessary to equip with FGR emissions control, which would result in significant cost and little benefit. SO<sub>2</sub> emissions from propane-fired boilers are formed from oxidation of sulfur in the propane. The amount of SO<sub>2</sub> emitted is directly proportional to the amount of sulfur in the fuel. RBLC does not list any SO<sub>2</sub> BACT determinations for propane combustion sources, and AP-42, Compilation of Air Pollutant Emission Factors (AP-42) only evaluates controls for NOx. Per ARM 17.8.322, Section III.D.5 states “PPLM shall not fire in the boiler liquid or solid fuels containing sulfur in excess of 1.0 lb of sulfur/MMBtu.”

Propane is a low emissions fuel with respect to SO<sub>2</sub> and particulate matter, compared to other fossil fuels or biomass. Because of that, in many cases, compliance with emissions standards can be ensured on a continuous basis by appropriate fuel use and operation. In fact, a significant number of federal air quality regulations allow the use of “gaseous or liquid fossil fuel” (including natural gas) to meet compliance demonstrations for a variety of conditions (opacity, SO<sub>2</sub>, etc.). For example, the Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971 (40 CFR 60, Subpart D), 40 CFR 60.45(1) states: *“For a fossil-fuel-fired steam generator that burns only gaseous or liquid fossil fuel (excluding residual oil) with potential SO<sub>2</sub> emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and that does not use post-combustion technology to reduce emissions of SO<sub>2</sub> or PM, CEMS for measuring the opacity of emissions and SO<sub>2</sub> emissions are not required if the owner or operator monitors SO<sub>2</sub> emissions by fuel sampling and analysis or fuel receipts.”*

Section III.D.3 has been carried over in error from a previous permit iteration. The limitation of 0.28 lb/MMBtu is based on the calculation in the process weight rule (ARM 17.8.309), a generally applicable rule, which is the applicable requirement in this case. The value of 0.28 lb/MMBtu was a one-time calculation that should not have been placed in the permit because it reflected allowable emissions only under specific circumstances (maximum heat input, in this case).

The condition has been corrected within the Title V permit. The auxiliary boiler predated air quality permitting in the state of Montana and therefore, is only subject to generally applicable standards. However, because the process weight rule was promulgated with the intention of covering multiple fuel types, it provides an extremely conservative emission limitation. With respect to particulate matter emissions on propane fired boilers, the emission factor provided by EPA in AP-42, Section 1.4-6 (July 1998), would be approximately 0.008 lb/MMBtu, far below the 0.28 lb/MMBtu calculated from the process weight rule at maximum heat input.

Further, because the combustion process for propane is similar to that of natural gas, it is worth noting the following: AP-42, Chapter 1.2 states *“Because natural gas is a gaseous fuel, filterable PM emissions are typically low. Particulate matter from natural gas combustion has been estimated to be less than 1 micrometer in size and has filterable and condensable fractions. Particulate matter in natural gas combustion are usually larger molecular weight hydrocarbons that are not fully combusted. Increased PM emissions may result from poor air/fuel mixing or maintenance problems.”*

Therefore, combustion of propane and the associated reporting of any fuel use outside of propane would ensure compliance with the opacity and PM emissions limits.

The Department looked to EPA's position on the subject of monitoring sufficiency. Within EPA's Order Responding to Petitioner's Request that the Administrator Object to Issuance of a State Operating Permit (Petition Number: VIII-2009-01),<sup>2</sup> EPA indicated that "A title V permit must include all applicable requirements. See 40 CFR 70.5(c)(4). It must also include monitoring necessary to assure compliance with applicable requirements. See 42 U.S.C. § 7661c(a) of the FCAA; *see also* 40 CFR 70.6(c)(1). Petitioner fails to identify any applicable requirement that requires the use of PM CEMS for monitoring compliance with the PM limit. Petitioner also has not alleged or demonstrated that PM CEMS are the only monitoring that can assure compliance with the PM limit and therefore must be included in the title V permit. The commenter fails to demonstrate that PM CEMS is required as an applicable requirement or as monitoring necessary to assure compliance with an applicable requirement." Further, the narrative continues "Petitioner fails to demonstrate that PM CEMS is required as an applicable requirement or as monitoring necessary to assure compliance with an applicable requirement. Therefore, I deny the petition on the issue that the Hayden Power Station title V permit must include PM CEMS to assure compliance with the boilers' PM limit." The Department concurs and finds this language applicable in response to the subject comment.

#### **6. The Monitoring of Building Heater Boiler Emissions is Inadequate.**

##### **PERMIT SECTION and/or TOPIC: Conditions III.E.6 & E.7**

COMMENT: The draft permit's monitoring requirements for building heater boiler opacity and PM emissions is inadequate in the same way that the permit fails to assure compliance with auxiliary propane boiler emissions limits. These infrequent tests are inadequate to assure compliance with instantaneous opacity and PM limits. DEQ should require continuous emissions monitoring for opacity and PM from the building heater boiler. At a minimum, DEQ must document its rationale for failing to require more frequent emissions monitoring for this unit. [Earthjustice (MEIC/Sierra Club) 6/16/2011]

DEPARTMENT RESPONSE: The commenter has expressed concerns with the adequacy of the draft permit's monitoring requirements for a building heater boiler and has indicated the desire to have compliance demonstrated by way of continuous emissions monitoring. The referenced building heater boiler is considered small by industry standards and installation of continuous emissions monitoring would result in a significant cost and little environmental benefit.

Further, as stated in response to comment 5, propane is a low emissions fuel with respect to SO<sub>2</sub> and particulate matter, compared to other fossil fuels or biomass. Because of that, in many cases, compliance with emissions standards can be ensured on a continuous basis by appropriate fuel use and operation. In fact, a significant number of federal air quality regulations allow the use of "gaseous or liquid fossil fuel" (including natural gas) to meet compliance demonstrations for a variety of conditions (opacity, SO<sub>2</sub>, etc.). For example, the Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971 (40 CFR 60, Subpart D), 40 CFR 60.45(1) states: *"For a fossil-fuel-fired steam generator that burns only gaseous or liquid fossil fuel (excluding residual oil) with potential SO<sub>2</sub> emissions rates of 26 ng/J (0.060 lb/MMBtu) or less and that does not use post-combustion technology to reduce emissions of SO<sub>2</sub> or PM, CEMS for measuring the opacity of emissions and SO<sub>2</sub> emissions are not required if the owner or operator monitors SO<sub>2</sub> emissions by fuel sampling and analysis or fuel receipts."*

Because the combustion process for propane is similar to that of natural gas, it is also worth noting the following: AP-42, Chapter 1.2 states *"Because natural gas is a gaseous fuel, filterable PM emissions are typically low. Particulate matter from natural gas combustion has been estimated to be less than 1 micrometer in size and has filterable and condensable fractions. Particulate matter in natural gas combustion are usually larger molecular weight hydrocarbons that are not fully combusted. Increased PM emissions may result from poor air/fuel mixing or maintenance problems."* Therefore, the Department finds the need for additional emissions monitoring unnecessary.

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<sup>2</sup> In the matter of Public Service Company of Colorado, dba Xcel Energy, Hayden Station, Permit Number: 96OPRO132, Issued by the Colorado Department of Public Health and Environment, Air Pollution Control Division. Signed March 24, 2010.

Additionally, the commenter is referred to the response to the previous comment citing the following EPA language: "A title V permit must include all applicable requirements. See 40 CFR 70.5(c)(4). It must also include monitoring necessary to assure compliance with applicable requirements. See 42 USC FCAA § 504(a); see also 40 C.F.R. 70.6(c)(1). Petitioner fails to identify any applicable requirement that requires the use of PM CEMS for monitoring compliance with the PM limit. Petitioner also has not alleged or demonstrated that PM CEMS are the only monitoring that can assure compliance with the PM limit and therefore must be included in the title V permit. The commenter fails to demonstrate that PM CEMS is required as an applicable requirement or as monitoring necessary to assure compliance with an applicable requirement."

**7. The Monitoring of the Coal Handling System, Emergency Diesel Generators, Internal Combustion Engines, and Lime Handling System Is Inadequate.**

**PERMIT SECTION and/or TOPIC: Conditions F.1 & F.2, G.1, H.2; Condition F.5; Conditions G.4, H.5; Conditions F.3 & F.6, G.2 & G.5, H.3 & H.6; Conditions A.4, F.5, I.3;**

**COMMENT:** The draft permit fails to require opacity and PM monitoring for the coal handling system, emergency diesel generators, internal combustion engines, and lime handling system that "assure[s] compliance with the permit terms."

The draft permit establishes an opacity limit for emissions from these units of 20% averaged over 6 minutes and requires monitoring with "either a semiannual Method 9 source test or a weekly visual survey of visible emissions." Also, the permit establishes a PM limit expressed in pounds per hour, but requires monitoring through a Method 5 test only "[a]s required by the Department." Such infrequent monitoring is inadequate to assure compliance with instantaneous emission limits. These inadequate monitoring provisions should be replaced with either continuous or, at least, hourly monitoring requirements. At a minimum, DEQ must document its rationale for failing to require more frequent emissions monitoring for this unit. 40 C.F.R. § 70.7(a)(5).

The draft permit would allow compliance demonstrations to be based on weekly visual surveys. DEQ relies on the presence of a "Dust Abatement Program," not just visual monitoring, to ensure that opacity standards for fugitive emissions are met. Because DEQ relies on the Dust Abatement Program to assure compliance with the permit standard, the program must be available for public review with the draft title V permit and incorporated as an enforceable condition of the final permit.

The TRD and the charts on pages 25 and 31 of the draft permit require visual surveys to be conducted bi-monthly. However, the narrative permit conditions state that compliance shall be demonstrated through weekly visual inspections. Draft Permit, conditions F.5 & I.3. DEQ should clarify the frequency of visual monitoring in the final permit and technical review document. [Earthjustice (MEIC/Sierra Club) 6/16/2011]

**DEPARTMENT RESPONSE:** The intent of the Title V permit is to require PPLM to conduct weekly visual surveys of the Coal Handling System as well as the Lime Handling System. The permit had been updated to reflect the required weekly visual surveys. The primary method to reduce particulate matter emissions, including opacity, from the Coal Handling System is the use of enclosed conveyors, dust suppressant, enclosed downspout with elevation doors, and dustless transfer chutes (certain locations). The primary method for the Lime Handling System is the use of pneumatic unloading. In addition, the Department would like to note that although the opacity standard specified is 20% or greater, the compliance demonstration specifies that if visible emissions meet or exceed 15% opacity (more conservative than 20%) based on the Method 9 source test, PPLM shall immediately take corrective action to contain or minimize the source of emissions. Also the Department has included requirements that weekly visual surveys be conducted during times of emergency generator operation. The Department believes that the compliance demonstration including the change in wording discussed above meets the intent of the administrative rules of Montana and is adequate to ensure compliance with applicable opacity limits established in the draft Title V permit. In reference to controls installed on the Coal Handling System and the Lime Handling System at PPLM, EPA has taken a position on a similar case where EPA supported the position that Method 9 testing is adequate where coal handling systems

are enclosed and coal fugitives are controlled with water spray. See EPA's response in the Dynergy Order (*See In the Matter of Dynergy Northeast Generation*, Petition Order II-200 1-06 at 11 (February 14, 2003)).

The commenter is concerned that the draft Title V permit does not require the permittee to monitor for opacity even if visible emissions are observed and that the monitoring set forth is not sufficient to ensure that any potential exceedances or violations are detected, recorded, and reported as required. It is not feasible to monitor fugitive emissions from the coal and lime handling systems continuously, and the frequency of significant emissions from these sources is very low. However, part of the intent behind requiring visual surveys on emitting units is encouraging facilities to become more aware of day-to-day operation and fluctuations within their processes and how those operations affect visible emissions, which generally results in more proactive operation and less visible emissions overall. The Department believes that Sections III.F, III.G, and III.H adequately require follow up monitoring of a source if visible emissions are observed during weekly visual survey and ensures that any potential exceedances or violations are detected, recorded, and reported as required.

Sections III.F, III.G, and III.H of the draft Title V permit each reference ARM 17.8.309 or ARM 17.8.310.

ARM 17.8.309(2) states: *"When the heat input falls between any two consecutive heat input values in the preceding table, maximum allowable emissions of particulate matter for existing fuel burning equipment and new fuel burning equipment must be calculated using the following equations:*

$$\text{For existing fuel burning equipment: } E = 0.882 * H^{-0.1664}$$

$$\text{For new fuel burning equipment: } E = 1.026 * H^{-0.233}$$

And, ARM 17.8.310(2) states: *"When the process weight rate falls between two process weight rate values in the table, or exceeds 3,000 tons per hour, the maximum hourly allowable emissions of particulate matter **must be calculated using the following equations:***

*(a) Maximum hourly allowable emissions of particulate matter, for process weight rates up to 30 tons per hour, must be calculated using the following equation:*

$$E = 4.10 P^{0.67}$$

*(b) Maximum hourly allowable emissions of particulate matter, for process weight rates in excess of 30 tons per hour, must be calculated using the following equation:*

$$E = 55.0 P^{0.11} - 40$$

*Where E = rate of emission in pounds per hour and P = process weight rate in tons per hour."*

The draft permit refers to ARM 17.8.309 for calculating a numerical PM emission for fuel burning equipment based on the actual heating value of a particular fuel. ARM 17.8.309 also states, "For the purposes of this rule, heat input will be calculated as the aggregate heat content of all fuels (using the upper limit of their range of heating value) whose products of combustion pass through the stack or chimney. " The calculated value is compared to the numerical limit specified in the rule to confirm compliance with the limit. Likewise, the draft permit condition refers to ARM 17.8.310 which provides an equation to calculate a numerical PM emission from other operations or activities based on the actual process rate of the emitting equipment. This value is compared to the numerical limit specified in the rule to confirm compliance with the limit. The Department currently lists Method 5 testing for the emergency diesel generators on a frequency "as required by the Department." The Department reserves the right, pursuant to ARM 17.8.105 – "Testing Requirements" and ARM 17.8.1213 – "Requirements for Air Quality Operating Permit Content Relating to Compliance" to require testing of sources as may be deemed necessary. However, given the weekly visual survey requirements, which are indicative of visible emissions, and which do require corrective action if visible emissions approach opacity standard; more frequent Method 5 tests, in and of themselves, would provide little benefit. The commenter suggestion of either hourly or continuous emissions monitoring or testing is neither practical (Method 5 tests are performed in one set of three hourly runs, in general) nor productive from a standpoint of environmental protection. Such requirements may require equipment to be started up just for the purpose of being tested.

In general when ARM 17.8.309 or ARM 17.8.310 are the applicable standards, the most appropriate compliance determining method is a Method 5 stack test. However, in some instances (coal handling, for example), a Method 5 test cannot be conducted because of the nature of the emissions (fugitive versus point). In those instances, the appearance of visible emissions, measured with visual surveys and Method 9 tests, when necessary, more appropriately account for particulate emissions or lack thereof. In addition, the visual survey requirements include corrective action that can halt a potential emissions violation before it happens.

With respect to continuous emissions monitoring, the Department refers the commenter to the response under the previous two comments. As previously mentioned, reference method testing (Method 5, in this case) remains an option for non-fugitive sources, but the most environmentally beneficial option with respect to particulate emissions is being aware, controlling, and providing corrective action as conveyed under the visual survey requirements.

The permit does not have requirements for a "Dust Abatement Program."

ARM17.8.304(4)(c) states that "*This rule does not apply to emissions from motor vehicles.*" The Department does not have the authority to enforce permit conditions on internal combustion engines (referring specifically to vehicles) (EU11) and has removed reference to this emitting unit in the operating permit.

## **8. DEQ's Technical Review Document is Inadequate.**

### **PERMIT SECTION and/or TOPIC: TRD**

COMMENT: DEQ prepared a draft technical review document that is intended to "establish[] the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit proposed for this facility." The document does not fulfill this purpose. While we appreciate the thorough discussion of Colstrip's permitting history, we request similarly detailed analysis of the permit standards and monitoring. We request that DEQ make an expanded technical review document available for public review and comment prior to issuing a final permit. [Earthjustice (MEIC/Sierra Club) 6/16/2011]

DEPARTMENT RESPONSE: The purpose of the Technical Review Document (TRD) is indeed to establish the basis for the decisions made regarding the applicable requirements, monitoring plan, and compliance status of emission units affected by the operating permit proposed for this facility. Additionally, as stated within Section I.A of the TRD, "it is also intended to provide background information not included in the operating permit and to document issues that may become important during modifications or renewals of the permit." Within Montana's Title V program approved by EPA, the Department is required to prepare a document serving the purpose of a statement of basis of which sets forth the legal and factual basis for the terms and conditions within a corresponding Title V permit.

A Statement of Basis should include:

- Descriptions of the facility and process
- Summary of emissions, emission units, and control devices
- Explanation of why the source is subject to Title V (e.g., PTE for NO<sub>x</sub> > than 100 TPY)
- Attainment status of the area (important for understanding major source status and applicability of SIP requirements, like RACT)
- Summary of applicable requirements
- Explanations for applicability and non-applicability determinations
- Justification for any "streamlining"
- Basis for periodic monitoring regime chosen, including appropriate calculations
- Basis for determining that emission units/operations are "insignificant activities"

The Department has prepared the TRD to meet the recommendations associated within EPA's guidance as summarized above. In addition, the Department has included additional information in the TRD including the response to comments through this permitting action.

## **9. Request to have the permit circulated for public review once draft document is revised.**

### **PERMIT SECTION and/or TOPIC:**

COMMENT: Revise the draft Title V operating permit and make it available for a full public review period. [Earthjustice (MEIC/Sierra Club) 6/16/2011]

DEPARTMENT RESPONSE: In accordance with the Administrative Rules of Montana, the Department issued a draft permit (ARM 12.8.1201(12)) and allowed adequate time and notice (procedures) for public comment (ARM 17.8.1232(1)). Following the issuance of draft Operating Permit #OP0513-07, through the review of the administrative process of issuance of draft permit #OP0513-07, the Department determined that it had not met its obligation under ARM 17.8.1233, specifically giving notice to all "Affected States" (or entities, as is applicable in this case) as defined under ARM 17.8.1201(3). The Department did not notify the Northern Cheyenne or Crow Tribes during the draft issuance of permit #OP0513-07.

In addition, the Department made substantive changes to the CAM plan for PPLM Colstrip after the draft permit #OP0513-07 was noticed. Therefore, because of the substantive CAM plan changes and to address administrative notice requirements, #OP0513 is being issued in draft form for a second time. The Department has responded to comments received on permit #OP0513-07 and included a summary of the comments and the Department's responses in the TRD. Therefore, after the draft comment period for #OP0513-08, pursuant to the rules and process described therein, the Department will revise the draft permit, as appropriate, based on comments received, and will transmit it to the EPA (ARM 17.8.1226(5)) as well as submitting all comments and Department responses to the EPA so EPA can "fulfill the obligation under Section 505(b)(2) of the FCAA to determine if a citizen petition may be granted."

## **10. Prompt Reporting Requirements Need Revised.**

### **PERMIT SECTION and/or TOPIC:**

COMMENT: The Title V Permit does not appear to require prompt reporting of permit deviations in accordance with the Clean Air Act. Of concern is that although Section V.E requires reporting of deviations, it does not appear that such reporting is sufficiently prompt and satisfies Title V requirements. 30 days does not appear to be prompt, nor does it appear to reflect any consideration of degree and type of deviation likely to occur and the applicable requirements. Although the provision does require an initial notification within 24 hours of deviations that "may result in emissions potentially in violation of permit limitations," an initial notification does not satisfy prompt reporting requirements. We strongly urge the DEQ to require prompt reporting of permit deviations within a timeframe similar to that established by EPA and other states. The phrase "which may result in emissions potentially in violation of permit limitations" is unclear, vague, and could be interpreted to allow the polluter to avoid reporting emission violations within 30 days. We strongly urge the DEQ to simply require prompt reporting of all deviations related to excess emissions, and to ensure that deviations related to hazardous or toxic air pollutant emissions occur within 24 hours and that deviations related to other pollutant emissions occur within 48 hours. [WildEarth Guardians 6/16/11]

DEPARTMENT RESPONSE: The Department disagrees that the initial notification within 24 hours "does not satisfy prompt reporting requirements." The language "for deviations which may result in emissions potentially in violation of permit limitations" is intended to cast a wide net for any deviation which has the possibility of violating a permit condition. This broad interpretation was taken by the Department because in some cases (a process upset, for example), the regulated facility may not know immediately if a permit limit would be violated, only that the possibility exists. Therefore, the language would cover (and has covered) many more situations where the potential exists for the violation of a limit, not just where a confirmed violation has taken place. Because of this broad interpretation, facilities are, in fact, doing some over reporting, and in some cases, are retracting initial deviation reports after realizing that no limits were violated or deviations occurred. The initial notification is required to be followed up with additional information within 30 days because often within that initial 24-hour period, the probable cause and/or specific corrective action taken (or to be taken) is not known with certainty. As with any reporting, if the Department needs more information "to protect public health and safety as well as to provide a forewarning of potential problems" from the initial 24-hour notification, the compliance inspector would require that additional information at that time.



Colorado's Air Pollution Control Division (cited by the commenter) requires reporting of hazardous/toxic air pollutants within 24 hours only if "emissions... continue for more than an hour in excess of permit requirements" and of other regulated air pollutants within 48 hours "if emissions... continue for more than two hours in excess of permit requirements." In comparison to Colorado's language, Montana's language requires reporting of emissions that "may" cause a violation of a permit condition (again, casting a broader net to include those that have the possibility of a violation if not immediately known) for any period of time.

40 CFR 70.6(a)(3)(iii)(B) directs permitting authorities to "define 'prompt' in relation to the degree and type of deviation likely to occur and the applicable requirements." The Department's language does that by focusing resources on those deviations that "may" violate permit conditions. Other types of deviations, generally administrative in nature that would not have environmental impacts, require reporting within 90 days. In addition, Montana has a malfunction rule that requires the following (under the Administrative Rules of Montana 17.8.110):

"(2) The department must be notified promptly by telephone whenever a malfunction occurs that is expected to **create emissions in excess of any applicable emission limitation** *[emphasis added]*, or to continue for a period greater than four hours. If telephone notification is not immediately possible, notification at the beginning of the next working day is acceptable. The notification must include the following information:

- (a) identification of the emission points and equipment causing the excess emissions;
- (b) magnitude, nature, and cause of the excess emissions;
- (c) to the extent known, time and duration of the excess emissions;
- (d) description of the corrective actions taken or expected to be taken to remedy the malfunction and to limit the excess emissions;
- (e) information sufficient to assure the department that the failure to operate in a normal manner by the air pollution control equipment, process equipment, or processes was not caused entirely or in part by poor maintenance, careless operation, poor design, or any other preventable upset condition or preventable equipment breakdown; and
- (f) readings from any continuous emission monitor on the emission point and readings from any ambient monitors near the emission point."

In addition, ARM 17.8.110(5) requires that "within one week after a malfunction has been corrected, the owner or operator must submit a written report to the department..."

Combined with the prompt deviation reporting required under other applicable requirements (MACT standards, etc.) and the Malfunction Rule, the Department believes Montana's prompt reporting requirements as listed in Section V.E. satisfy the prompt reporting requirements under ARM 17.8.1212(3)(b) and 40 CFR 70.6(a)(3)(iii)(B).

## **11. The Title V Permit Appears to Fail to Include Pollutant Emitting Activities Related to the Operation of the Rosebud Coal Mine.**

### **PERMIT SECTION and/or TOPIC:**

COMMENT: The Title V Permit appears to not include pollutant emitting activities related to the mining of coal at the adjacent Rosebud Coal Mine, which provides virtually all of its coal to the Colstrip power plant. In this case, it appears that DEQ must aggregate emissions from the mine together with the power plant as a single source of air pollution, consistent with PSD regulations and the Montana SIP. The Montana SIP states that a major source under both PSD and Title V, as well as a stationary source in general, consists of all the pollutant emitting activities belonging to the same industrial grouping that are located on one or more contiguous or adjacent properties and that are under the common control or ownership of the same person or persons under common control. The Title V Permit must ensure that pollutant emitting activities associated with the Rosebud coal mine, including any underlying construction permits, are fully incorporated into the Title V Permit and that the Permit assures compliance with PSD in regards to operations of the mine. [WildEarth Guardians 6/16/11]

DEPARTMENT RESPONSE: Stationary source determinations are made on a case-by-case basis considering the foundational concepts provided in the FCAA, the Clean Air Act of Montana, and EPA implementing regulations. The current regulatory definition of stationary source for purposes of major New Source Review (NSR) applicability was promulgated in 1980. In its June 1979 opinion in *Alabama Power*, the D.C. Circuit Court of Appeals rejected the definition of a source in EPA's 1978 regulations. As EPA noted in the preamble to its 1980 final rules:

"...the December opinion of the court in *Alabama Power* sets the following boundaries on the definition for PSD purposes of the component terms of "source": (1) it must carry out reasonably the purposes of PSD; (2) it must approximate a common sense notion of a "plant;" and (3) it must avoid aggregating pollutant-emitting activities that as a group would not fit within the ordinary meaning of "building," structure, "facility," or "installation."

EPA used these guiding principles from the Court's opinion, including the common sense notion of a plant, to develop the three regulatory criteria for determining when permitting authorities should consider two or more pollutant-emitting activities to be a single stationary source for purposes of the major NSR programs. Pursuant to ARM 17.8.801(28) (and analogous to 40 CFR 51.165(a)(1)(i)), a stationary source is any building, structure, facility, or installation, which emits, or may emit any air pollutant subject to regulation under the FCAA..." Pursuant to ARM 17.8.801(7), a "building, structure, facility, or installation" means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group (i.e., which have the same two digit code) as described in the standard industrial classification manual, 1987."

To be considered a stationary source for purposes of NSR, the pollutant emitting activities must meet all three of the regulatory criteria. These same criteria were later adopted into the definition of stationary source in 40 CFR 70.2 for purposes of determining when two or more pollutant-emitting activities are considered a stationary source for purposes of the Title V permitting program, and EPA was clear that the language and application of the Title V definition was to be consistent with the NSR definition contained in 40 CFR 52.21. (See 61 FR 34,202-34,210 (July 1, 1996)).

An accounting of the three "same source" regulatory criteria follow.

- 1) All of the pollutant-emitting activities belong to the same industrial grouping

The PPLM Colstrip facility has a standard industrial classification (SIC) code of 4911 – Electric Services. The Westmoreland Rosebud Coal Mine (Westmoreland), permitted as Western Energy Company, has an SIC code of 1221 – Bituminous Coal and Lignite Surface Mining (which includes Subbituminous coal surface mining). Therefore, the two facilities do not have the same SIC code.

The commenter mentioned that the "mine serves as a support facility for the power plant because it provides more than 50% of its output to the operations power plant." Divergent guidance/case law exists with respect to determining whether facilities can be considered to belong to the same industrial grouping if they, in fact, have different SIC codes (the "support facility" exclusion). At least one court decision specifies that the rule is clear in separating facilities by SIC code, so a different 2-digit SIC code automatically means a separate source. In *Color Communications, Inc., v. Illinois Pollution Control Board and Illinois EPA* (1997), the concept of a support facility was invalidated. Based on this case, the two facilities would be clearly separate with respect to industrial grouping.

Also supporting this distinction (specifically with respect to power plants and adjacent coal mines) is the legislative history of the 1990 FCAA Amendments. The following is an excerpt from a House Report discussing the "major source" definitional language added to the ozone nonattainment provision in § 182 of the Act, 42 U.S.C. § 7511a:

"The definition of "major source" [in the ozone nonattainment area] and elsewhere in the bill uses the term "group of sources located within a contiguous area and under common control." The Committee understands this to mean a group of sources with a common industrial grouping, i.e., the same two-digit SIC code. It is the approach followed by EPA as a result of the Alabama Power litigation. It avoids the possibility that dissimilar sources, like a power plant and an adjacent coal mine, will be considered as the same "source" because of common ownership."

As explained in the 1980 preamble to the NSR rules, a support facility analysis is only relevant under the same industrial grouping criterion, not to the common control criteria as indicated by the commenter. Support facilities are typically those which convey, store, or otherwise assist in the production of the principal product (45 FR 52695, August 7, 1980). If the principal product in this case is electricity, Westmoreland does not "convey or store" electricity, but it may be considered to "otherwise assist in the production" of electricity by providing some of the fuel used in producing the electricity.

In addition, in EPA correspondence (letter from EPA to Florida Department of Environmental Regulation, August 20, 1990), the support facility exclusion is described with respect to a cogeneration facility and a cement plant, "... can be determined based on the ratio of the fuels used to create electricity and /or steam for an outside party and the fuels used to create electricity/steam for the cement plant. The cogeneration facility should be classified in the grouping that relies most heavily on the fuel input." Using this logic and the percentage of coal production that is directed toward PPLM Colstrip, the support facility exemption would apply to Westmoreland.

However, in a November 12, 1998 letter from EPA to the Colorado Department of Public Health, EPA states that a power plant that provides 100% of the power needs to a brewery (with no other customers at the time of determination), "lacks a primary economic activity of its own; instead, it serves to support the activity of another facility." Westmoreland, by contrast, does not "lack a primary economic activity of its own," and it is not entirely dependent on PPLM Colstrip as a customer. In fact, several large coal mines operate in the same area without contractual agreements to nearby coal-fired utilities.

- 2) All of the pollutant-emitting activities are located on one or more contiguous or adjacent properties

The PPLM Colstrip facility and Westmoreland are located on contiguous and adjacent properties.

- 3) All of the pollutant-emitting activities are under the control of the same person (or persons under common control)

Westmoreland is owned and operated by Westmoreland Coal Company which is unaffiliated with the owners and operators of the PPLM Colstrip facility. Therefore, the power plant and the coal mine are not under control of the same person (or persons under common control). No common ownership exists between the two facilities.

As previously mentioned, the commenter suggests that common control exists due to the mine's potential status as a support facility. That assertion is without legal support. Indeed, EPA rejected the commenter's similar permit petition for objection for another facility on February 2, 2011 (Anadarko Petroleum Corporation's Frederick Compressor Station, Order Responding to Request that the Administrator Object to Issuance of a State Operating Permit). There, EPA explained that, while "a support facility analysis may be conducted to determine whether the activities should be treated as having the same industrial grouping," the analysis has no bearing on the other two factors necessary to require aggregation.

As stated in EPA correspondence (letter from EPA to Iowa Department of Natural Resources, September 18, 1995), "EPA's permit regulations do not provide a definition for control. Therefore, we rely on the common definition. Webster's Dictionary defines control as 'to exercise restraining or directing influence over,' 'to have power over,' 'power of authority to guide or manage,' and 'the regulation of economic activity.'"

Much of the guidance with respect to common control refers to degrees of ownership (percent of voting power, members on boards of directors, etc.) which is not relevant in this case because there is no degree of common ownership. Other guidance documents (including the September 18, 1995 letter mentioned above) exist that refer to "companion" facilities (facilities locating on the same property of a major facility), which is also not directly relevant in this case because the facilities are located near (adjacent) to each other and share a boundary (contiguous), but are not "companion" facilities because neither are located on property owned by the other. However, the questions EPA listed in the September 18, 1995 letter may be instructive, if considered in light of EPA's inference that the questions apply to the "companion facilities" that already share property. These questions in bold italics are as follows; with the response in standard text (information in the responses was provided by PPLM and Department review of publicly available Securities and Exchange Commission [SEC] documentation):

***"Do the facilities share common workforces, plant managers, security forces, corporate executive officers, or board of executives?"*** PPLM – Colstrip and Westmoreland do not share these entities.

***"Do the facilities share equipment, other property, or pollution control equipment?"*** No, they do not. The coal conveyor, as mentioned by the commenter, is owned and operated by Westmoreland. This arrangement would be similar to getting fuel from another supplier, for example, who would use its own trucks for delivery. ***"What does the contract specify with regard to pollution control responsibilities of the contractee?"*** The only contract specification related to pollution control is a maximum percent sulfur in the coal supplied. This is a specification among several other coal quality specifications. ***"Can the managing entity of one facility make decisions that affect pollution control at the other facility?"*** No, each facility is responsible for its own pollution control.

***"Do the facilities share common payroll activities, employee benefits, health plans, retirement funds, insurance coverage, or other administrative functions?"*** PPLM – Colstrip and Westmoreland do not share these functions.

***"Do the facilities share intermediates, products, byproducts or other manufacturing equipment?"*** No, they do not. ***"Can the new source purchase raw materials from and sell products or byproducts to other customers?"*** There is no "new source" in this situation, but Westmoreland is free to sell coal to other entities (and does) and PPLM – Colstrip is free to buy coal from other entities. ***"What are the contractual arrangements for providing goods and services?"*** The contract between Westmoreland and PPLM – Colstrip is a coal supply contract. It is a typical supplier/customer contract.

***"Who accepts the responsibility for compliance with air quality control requirements? What about for violations of the requirements?"*** The mine and plant have separate environmental permits; each respective facility is responsible for its own compliance with air quality control requirements and any violations of those requirements that may occur.

***"What is the dependency of one facility on the other?"*** The PPLM – Colstrip plant is a customer, among several customers, of the mine. ***"If one shuts down, what are the limitations on the other to pursue outside business interests?"*** If the mine shuts down, PPLM – Colstrip is free to obtain coal from another supplier. If the plant shuts down, the mine will have one fewer customer.

The commenter mentioned Section III.A.15 which states: "...PPLM shall utilize only coal from the Rosebud seam within Units #3 and #4..." Westmoreland can and does mine from the Rosebud seam, but is not the only mine which can access the Rosebud seam. Therefore, that condition

does not limit PPLM – Colstrip to obtaining coal only from Westmoreland to comply with that condition. In addition, the condition is taken from a Montana Facilities Siting Act (MFSA) certificate. The condition originated from an assurance that coal from the Rosebud Seam (or rather coal with the sulfur content of the Rosebud seam) would ensure compliance with the air quality requirements. Because several major coal mines now exist in the general area that are mining coal very similar to that which is located in the Rosebud seam, a case could be made to change the language in the certificate for coal “substantially equivalent” to that which was analyzed during the permitting of Units 3&4.

***“Does one operation support the operation of the other?”*** The two facilities are operated as separate independent facilities. ***“What are the financial arrangements between the two entities?”*** The facilities are parties in a coal supply contract as in a supplier/customer relationship.

In an August 2, 1996, EPA memorandum regarding major source determinations for military operations, John S. Seitz indicated that a common control determination must focus on who has the power to manage the pollutant-emitting activities of the facilities at issue, including the power to make or veto decisions to implement major emission-control measures or to influence production levels or compliance with environmental regulations. In this case, each of the facilities manage their own pollutant-emitting activities and neither would have the ability to make or veto decisions for the other to implement major emission control measures, influence production levels (beyond meeting the terms of the existing contract) , or compliance with environmental regulations.

The Seitz memo also indicates that where, as in this case, a contract provides that less than 100% of output would go to the primary activity (power generation, if it is assumed that Westmoreland is a “support facility” for PPLM – Colstrip), the permitting authority should consider the following factors: (1) how integral the contracted activity is to the primary entity’s operations; (2) the percentage of output that goes to the primary entity; (3) whether the activity must be on site to perform its service or produce its product; (4) whether the activity would remain on site if the primary entity no longer received the output; and (5) the terms of the contract between the primary and secondary entities. The factors are as follows in bold italics, with the response in standard text:

- (1) How integral the contracted activity is to the primary entity’s operations.*** Coal is integral to PPLM Colstrip’s operations; however, Westmoreland coal is not. Coal that is substantially equivalent in quality is currently being obtained and combusted in the other coal-fired boilers in Montana (e.g. Rocky Mountain Power – Hardin and, to a lesser extent, PPLM – Corette) and could potentially be obtained entirely from sources other than Westmoreland.
- (2) The percentage of output that goes to the primary entity.*** According to data provided by Westmorland Coal Company in a Securities and Exchange Commission filing (form S-4) as filed July 7, 2011, starting in 2010, Westmoreland was contracted to provide approximately 10 million tons of coal per year to PPLM Colstrip Units 1-4, which is approximately 77% of its maximum average production of 13 million tons per year (or 90% of the overall average production of 11 million tons per year). Production information was taken from the Westmoreland Coal Company website.
- (3) Whether the activity must be onsite to perform its service or produce its product.*** The circumstances are different in this case in that the two facilities are contiguous and adjacent, but do not share the same site. As demonstrated by other similar facilities (PPLM Corette, Rocky Mountain Power, - Hardin), it is not necessary for the facilities to share the same site or to be contiguous and adjacent for coal to be supplied for combustion in a boiler.
- (4) Whether the activity would remain on site if the primary entity no longer received the output.*** As previously discussed, Westmoreland currently sells coal to other customers and would continue that practice to a larger extent if PPLM Colstrip no longer received the output.

**(5) The terms of the contract between the primary and secondary entities.** The contract between Westmoreland and PPLM – Colstrip is a long-term coal supply contract. It is a typical supplier/customer contract.

Based on the guidance provided by EPA with respect to common control, the Department believes that the strongest piece of evidence pointing toward common control is the large percentage of coal mined by Westmoreland that is provided to PPLM Colstrip through a coal supply contract. However, that is the only piece of evidence that points in that direction. The facilities have no common ownership, no common workforce or administrative functions, no common/shared site, and no common control of pollutant-emitting activities, permits or compliance with air quality regulations. Both facilities could acquire their respective business interests from other parties and are, in fact, already doing so to some extent.

Guidance aside, the most recent and definitive decision with respect to the determination of common control was *Winnebago Industries, Inc. and CDI, LLC, v. Iowa Department of Natural Resources and Iowa Environmental Protection Commission* (Case No. CVCV018608, in the Iowa District Court for Hancock County, 2009). In the record of that decision, the parties agreed that the test for “common control” is found in the SEC’s regulations at 17 CFR § 240.12(b)2. The SEC definition provides:

“The term control (including the terms controlling, controlled by and under common control with) means the possession, direct or indirect, of the power to direct or cause the direction of the management and policies of a person (or organization or association), whether through the ownership of voting shares, by contract or otherwise.”

EPA’s use of the SEC definition was first described in a 1980 Federal Register notice (see 45 FR 59,874-59,878) and has been mentioned in multiple EPA guidance documents since that time. In the 1980 notice, EPA stated it will determine control on a case-by-case basis and will be guided by the general definition of control used by the SEC. In *Winnebago Industries, Inc. and CDI, LLC, v. Iowa Department of Natural Resources and Iowa Environmental Protection Commission*, the Iowa District Court determined, relying on SEC definition, that “a company having ‘common control’ must have the right, or at least be given permission, to somehow actually *participate* in the other company’s decision-making,” specifically “having any right or permission to be involved in the pollution control decisions.”

Therefore, with respect to common control, the Department asserts that it does not exist in this case. The Department has not obtained any information from the commenter, PPLM or Westmoreland, SEC documentation, or the Department’s interactions with the facilities, that indicates PPLM “participates” or has any “right or permission to be involved in the pollution control decisions” of Westmoreland.

In addition, while the facts specific to control have changed over time, when EPA permitted Colstrip Units 3&4 under PSD in 1979 (prior to Montana having its own SIP-approved PSD program), the coal mine was not included in the permit or in the PSD analysis, although the mine was in existence and the definition of “source” from the 1978 PSD regulations was arguably more broad (see the June 1979 D.C. Circuit Court of Appeals opinion in *Alabama Power*). In the 1978 PSD regulations, the definition of source was as follows: “Source” means any structure, building, facility equipment, installation or operation (or combination thereof) which is located on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control).” In addition, the mine at that time was owned in its entirety by Montana Power Company, who also had some ownership in Colstrip Units 3 & 4. During the proposal and building phases of Colstrip Units 3 & 4, significant extra efforts were made to ensure operational independence between the mine and the Colstrip units because of concerns raised by the other Colstrip Unit 3 & 4 partners regarding the potential for unfair market advantages within the percentage of generation owned by Montana Power Company.

In summary, many different pieces of EPA guidance and correspondence emphasize that whether to aggregate sources for purposes of PSD, NSR, and Title V applicability is a case-by-case determination that represents highly fact-specific decisions. While recognizing that EPA has issued many source determinations in its own permitting actions and provided source determination guidance to other permitting authorities that might be informative in future permitting actions, the September 22, 2009 EPA memorandum from Gina McCarthy clearly states that “no single determination can serve as an adequate justification for how to treat any other source determination for pollutant-emitting activities with different fact-specific circumstances.”

The three “same source” criteria must all be satisfied to indicate that two facilities should be regulated as the same source under PSD, NSR, and Title V. With respect to these “fact-specific circumstances,” only one of the three “same source” regulatory criteria is clear: the Westmoreland Rosebud Coal Mine and the PPLM Colstrip facility occupy contiguous and adjacent properties. It is also clear that the two entities have separate SIC codes. With regard to the possible “support facility” exemption, there is case law and/or guidance on both sides of the issue. Westmoreland clearly does not “lack a primary economic activity of its own,” and is not entirely dependent on PPLM Colstrip as a customer.

As summarized above under the third test, for “common ownership and control,” the only indication of common control would be the coal supply contract; no other evidence of common ownership or control exists. Under EPA guidance, even if the facilities shared a site (which these facilities do not), this would only be one of the many considerations for common control. In addition, Westmoreland does not supply 100% of its output to PPLM Colstrip. It has maintained and, based on the level of output contracted with PPLM Colstrip, will continue to maintain other customer contracts for coal sales. However, beyond the guidance, as previously mentioned, the most definitive decision in this area was the 2009 Iowa District Court Decision. There is no evidence to indicate PPLM “participates” or has any “right or permission to be involved in the pollution control decisions.” Therefore, the Westmoreland Rosebud Coal Mine and the PPLM Colstrip are not the same source with respect to PSD, NSR, and/or Title V. They will remain as separate permitted sources.

## **12. The Title V Permit Must Include a Schedule of Compliance over Recent Violations as well as for any Other Ongoing Violations.**

### **PERMIT SECTION and/or TOPIC:**

COMMENT: We are concerned that the Title V Permit lacks a necessary schedule of compliance in light of recent violations of the Clean Air Act at the Colstrip power plant. We request the DEQ fully address any and all recent violations in any Title V Permit. We are also concerned that the draft Title V Permit may lack a compliance schedule to bring all or some of the boilers at the Colstrip power plant into compliance with New Source Review (“NSR”) requirements under the Clean Air Act. There have been a number of emissions increases, particularly in NO<sub>x</sub> and SO<sub>2</sub>, from all four boilers at the Colstrip plant over the years, as well as apparent increases in heat input, indicating that major modifications may have occurred at the source, thereby triggering applicable NSR requirements. We request the DEQ access this information, as well as information gathered by the EPA and other relevant sources, in order to ensure that the Title V Permit assures the Colstrip power plant will comply with any applicable NSR requirements and, if necessary, include a compliance schedule to bring the facility into compliance with NSR. [WildEarth Guardians 6/16/11]

DEPARTMENT RESPONSE: The Department has addressed, and continues to address, any violations that are discovered at the PPLM Colstrip facility. Each violation that is discovered by the Department is reviewed and analyzed on a case-by-case basis. The Department uses its discretion to determine the most appropriate way to deal with permit violations and/or permit deviations. As appropriate, the Department takes formal enforcement actions to address those violations deemed substantial by the Department. The Department has determined that none of the violations that have been assessed at the PPLM Colstrip facility need to be addressed in the Title V permit. As indicated in the Department's response to comment 1, the infrequent violations referred to would certainly not qualify as “on-going” violations, subsequently requiring a compliance plan.

As may or may not be evident from the data in EPA's ECHO reports, the Department has actively overseen the compliance issues at the PPLM Colstrip facility. Many of the data entries in the ECHO database can be viewed, and will show that the Department is fully engaged in the compliance assessment of the PPLM Colstrip facility. In those instances where deviations have been reported, the Department has assessed the cause of the deviations and the percentage of time of the deviations. The deviations referenced in the Title V comments appear to refer to opacity deviations from the PPLM Colstrip boilers. Opacity from the boilers is measured with continuous opacity monitoring systems (COMS). EPA has issued various guidance statements on how deviations measured with continuous monitors might be addressed. In a September 29, 1993 CEM Enforcement Guidelines memo, EPA identified recommended enforcement follow-up actions for various percentages of excess emissions

(<5%, 5-10%, and >10%). The Department considers this information in evaluating opacity exceedances that are measured by COMS. Furthermore, the AFS Business Rules Compendium (Version 4.1, August 2009) also addresses this issue for High Priority Violations (HPV) regarding opacity standards. Except for opacity readings substantially over the limit, EPA uses percentage of operating time above a limit as an HPV consideration. EPA only recommends HPV action for opacity exceedances that are >5% of the operating time or > 3% of the operating time for two consecutive quarters. The Department also considers this EPA information when evaluating opacity exceedances.

Department staff members have regularly assessed PPLM Montana's compliance with limits that are measured with COMS. The Department has found that PPLM Montana has taken adequate steps to enhance their emission controls over time and that PPLM's percentage of time in excess of reference limits is lower than EPA's recommended action levels. The Department does not believe that the deviations reported by PPLM trigger any need for changes to the Title V permit because the deviations occur for such a small percentage of the operating time. From a practical standpoint and as previously mentioned, exceedances have been extremely infrequent. During the last five complete years (2007-2011) at Colstrip Units 1-4, the readings on the opacity monitors have demonstrated compliance 99.9% of the total operating time.

Additionally, changes in emissions and/or heat input do not necessarily trigger NSR requirements. For example, the actual emissions inventories for nearly every permitted facility in Montana vary from year to year because natural variation exists within all process operations.

Further, within EPA's Order Responding to Petitioner's Request that the Administrator Object to Issuance of a State Operating Permit (Petition Number: VIII-2010-XX),<sup>3</sup> EPA responded to the issue of the Title V permit failing to assure compliance with PSD requirements. EPA offered the following response:

"EPA notes that it is important to first address what is required to trigger PSD applicability. PSD applies to both the construction of new major stationary sources and major modifications of existing major stationary sources. The issue raised by Petitioner is whether various changes that allegedly took place at Pawnee constituted a major modification. Under the Colorado SIP, a major modification is any physical change in the method of operation of, or addition to, a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Federal Act or the Act. To determine whether a net emissions increase (and thus a major modification) would occur, the Colorado SIP requires: (1) a determination of the actual emissions increase that would result from a particular physical change or change in the method of operation; and (2) a determination of any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable. In a petition to object, the burden is on the petitioner to supply information sufficient to demonstrate the validity of each objection raised. CAA section 505(b)(2), 42 U.S.C. §7661d(b)(2)."

The Department finds this language applicable in response to the subject comment. The commenter has provided insufficient information indicative of noncompliance with NSR requirements.

### **13. Monitoring Concerns.**

#### **PERMIT SECTION and/or TOPIC:**

**COMMENT:** Opacity from Coal Handling Systems (EU007, EU008), Coal Piles (EU009), and Plant Roads (EU014): We are concerned that the draft Title V Permit requires insufficient periodic monitoring to ensure compliance with applicable opacity limits for these activities. It does not appear that monitoring once every six months will assure compliance with the applicable opacity limits, particularly given that they apply on a continuous basis. We are further concerned that the monitoring overall simply fails to ensure compliance with the relevant opacity limits. We are concerned that it is unclear where any visual

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<sup>3</sup> In the matter of Public Service Company of Colorado, dba Xcel Energy, Pawnee Station, Permit Number: 96OPMR128, Issued by the Colorado Department of Public Health and Environment, Air Pollution Control Division. Signed June 30, 2011.



surveys of visible emissions or Method 9 tests would actually occur in relation to the coal handling, coal piles, and plant roads. The Title V Permit does not specify where such monitoring should take place in order to assure compliance with the applicable opacity limits. We are also concerned that the draft Title V Permit does not require any monitoring of opacity or particulate matter from the process ponds. [WildEarth Guardians 6/16/11]

**DEPARTMENT RESPONSE:** Please refer to the response to comment 7. The Department will also make the changes requiring PPLM to conduct weekly visual surveys on EU013 Plant Roads. The Department believes that compliance with opacity limitations has historically been achieved, specifically for Coal Handling Systems, Coal Piles, and Plant Roads. The Department believes that the updated compliance demonstration language in the permit in reference to the above-listed emitting units ensures overall compliance with the opacity limit(s), and also ensures that any potential exceedances or violations are detected, recorded, and reported as required.

The commenter has additionally expressed concerns as to *where* any visual surveys of visible emissions or Method 9 tests would actually occur in relation to the coal handling, coal piles, and plant roads.

Section 3.11, Source Test Procedures for the Determination of Opacity of the Montana Source Test Protocol and Procedures Manual, states that the acceptable method is EPA Method 9 and that alternate methods include EPA Alternate Method 1(LIDAR) and EPA Method 22. The Visible Emissions Field Manual EPA Methods 9 and 22, EPA 340/1-92-004, December 1993, provides clear specifications for the observer's appropriate position while conducting both the Method 9 test and the Method 22 Visual Survey test as follows:

Appendix B Method 9-Visual Determination of the Opacity of Emissions from Stationary Sources

Section 2.1 Position. The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and, when observing opacity of emissions from rectangular outlets (e.g. roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

Section 2.3 Observations. Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume, but instead shall observe the plume momentarily at 15-second intervals.

Appendix C Method 22 – Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares.

Section 5.1 Position. Survey the affected facility or building or structure housing the process to be observed and determine the locations of potential emissions. If the affected facility is located inside a building, determine an observation location that is consistent with the requirements of the applicable regulation (i.e., outside observation of emissions escaping the building/structure or inside observation of emissions directly emitted from the affected facility process unit). Then select a position that enables a clear view of the potential emission point(s) of the affected facility or of the building or structure housing the affected, as appropriate for the applicable subpart. A position at least 15 feet, but not more than 0.25 miles, from the emission source is recommended. For outdoor locations, select a position where the sun is not directly in the observer's eyes.

With the addition of the aforementioned updated compliance demonstration language, through reference to the Montana Source Test Protocol and Procedures Manual and Visible Emissions Field Manual EPA Methods 9 and 22, EPA 340/1-92-004, December 1993, the Title V permit adequately specifies the

observer's location for proper implementation of the Method 9 and Method 22 (visual survey) tests, and as such, meets the intent of the administrative rules of Montana and is adequate to assure compliance with applicable opacity limits established in the draft Title V permit.

The commenter has additionally expressed concerns that the draft Title V Permit does not require any monitoring of opacity or particulate matter from the process ponds. The Department has updated the permit to require PPLM conduct weekly visual surveys on the process ponds. Please refer to Section III.I of the permit for the updated language.

#### **14. Monitoring Concerns.**

##### **PERMIT SECTION and/or TOPIC: III.B.15**

**COMMENT:** PM Emissions from Boilers 1 and 2 (EU001 and EU002): The draft Title V Permit requires monitoring for particulate matter ("PM") emissions only once per year. This is too infrequent and does not appear to ensure compliance with the applicable PM limits, in particular the pound/hour limits found in the Montana state implementation plan ("SIP") at ARM 17.8.309 and the lb/mmBtu limit, which applies on a rolling three-hour basis. Although boilers 1 and 2 are subject to compliance assurance monitoring ("CAM") requirements, it is unclear how the CAM plan will ensure compliance with the PM limits. We are concerned that, although the CAM plan relies on a 20% opacity indicator (measured as a three-hour average), there is no data showing that this is a reasonable and accurate threshold for assessing PM emissions and potential exceedances. It is also unclear whether the three-hour rolling opacity average is based on a rolling average of six-minute intervals, or whether it is based on hourly averages. Further, it is unclear how a three-hour rolling opacity average will serve to assure compliance with hourly PM limits set forth in the Montana SIP. The Title V Permit needs to be more explicit. Finally, it is unclear how the polluter will respond to remedy excursions from the 20% opacity indicator in order to ensure compliance with PM limits. We are also concerned that the CAM plan may not satisfy 40 C.F.R. Part 64 requirements in that it may not obtain data that directly indicates the performance of the control devices, in this case the venturi scrubbers. It would appear as if additional indicators of performance besides opacity would be necessary to ensure proper operation and effectiveness of the scrubbers. [WildEarth Guardians 6/16/11]

**DEPARTMENT RESPONSE:** As explained in the Department response to comment 2, the Department believes that PM emissions are monitored by a variety of methods, one of which is annual testing utilizing Method 5 or 5B. Other methods of PM monitoring and control measures contribute to the determination of overall compliance with PM limitations. Opacity limits and the corresponding use of COMS, as well as quality control and quality assurance measures outlined within PPLM's CAM plan are other examples of monitoring methods for PM. Following issuance of draft Operating Permit #OP0513-07 and receipt of public comments, the Department requested and received an updated version of the CAM plan from PPLM. Updates included inclusion of additional performance indicators to aid in assuring compliance with particulate emission limits. In addition to opacity monitoring, monitoring of plumb bob pressure drop ( $\Delta P$ ) levels and venturi spray flows have been included within the CAM plan.

Based on information provided by PPLM, a review of historical plumb bob  $\Delta P$  indicates that operation of the scrubbers with plumb bob  $\Delta P$  greater than 17 inches water column helps ensure compliance with the particulate standard. The control room operators monitor scrubber plumb bob  $\Delta P$  on a regular basis to ensure proper operation and will take corrective action as needed to make sure the scrubber is operating at the proper plumb bob  $\Delta P$  conditions. A daily average of the operating scrubber plumb bob  $\Delta P$ 's below 17 inches water column will be reported in the quarterly report as a CAM plan excursion.

The venturi spray system is designed so that when the pumps are operating, the proper spray flow is provided to the venturi section of the scrubbers. The control room operators monitor venturi spray operation on a regular basis to ensure proper scrubber operation. A venturi spray pump shutdown will alarm in the control room which helps the operator take corrective action immediately to make sure the scrubber is operating as designed. Periods of scrubber operation without the venturi sprays are expected to be infrequent and for short periods of time. Periods of individual scrubber operation without venturi sprays for more than 1 hour will be reported in the quarterly report as a CAM plan excursion.

Additionally, PPLM operates and maintains its scrubbers in accordance with manufacturer/vendor recommendations, modified per PPLM's operational experience.

1. The commenter has stated that "although the CAM plan relies on a 20% opacity indicator (measured as a three-hour average), there is no data showing that this is a reasonable and accurate threshold for assessing PM emissions and potential exceedances." Based on information received from PPLM, opacity has never exceeded 20% during Colstrip Units 1-4 PM compliance testing that demonstrated compliance with the particulate standard; therefore, it is appropriate to use a 20% daily opacity indicator as assurance that the units are in compliance with the applicable PM emission limits. Annual PM compliance testing has been conducted on Colstrip Units 1-4 since their initial commercial operations. The average results of these tests since the last revision to the CAM plan are presented in the following table.

**PPL Montana Colstrip Units 1-4  
Stack Particulate Emissions Tests  
EPA Method 5B**

Unit	Date	lb./MMBtu	lb./Hr.	%Opacity
1	05/27/04	0.026	95.2	NA
	04/15/05	0.042	139.9	14.0
	05/11/06	0.042	129.5	16.2
	05/02/07	0.049	157.6	15.3
	05/01/08	0.035	117.8	16.1
	04/22/09	0.034	110.9	17.8
	07/07/10	0.031	100.3	16.0
	10/19/11	0.027	91.6	17.3
2	06/14/04	0.058	208.3	NA
	04/20/05	0.045	147.0	15.9
	05/24/06	0.042	139.6	16.6
	04/25/07	0.060	189.3	18.0
	08/27/08	0.025	77.7	17.1
	04/29/09	0.033	111.2	18.0
	06/02/10	0.026	82.6	16.3
	10/27/11	0.037	118.5	18.0
3	09/15/04	0.035	276.9	NA
	04/07/05	0.033	255.0	17.4
	07/06/06	0.034	262.1	16.5
	07/19/07	0.024	186.0	15.3
	05/14/08	0.020	149.8	13.1
	05/06/09	0.018	133.5	15.6
	05/05/10	0.022	168.3	16.2
	03/17/11	0.020	155.2	14.1

Unit	Date	lb./MMBtu	lb./Hr.	%Opacity
4	06/30/04	0.044	306.8	NA
	02/16/05	0.034	254.4	16.6
	11/10/05	0.032	245.8	17.3
	04/05/06	0.029	210.6	14.3
	10/11/06	0.030	224.7	16.2
	04/18/07	0.032	243.8	12.4
	04/22/08	0.035	254.8	16.9
	11/24/09	0.022	169.9	17.5
	05/12/10	0.019	140.1	14.6
	04/07/11	0.031	237.5	17.7

The commenter is seeking clarity as to “whether the three-hour rolling opacity average is based on a rolling average of six-minute intervals, or whether it is based on hourly averages” as well as “how a three-hour rolling opacity average will serve to assure compliance with hourly PM limits set forth in the Montana SIP.” The rolling 3-hour opacity average is based on hourly averages. Every new clock hour will result in the calculation of a new rolling 3-hour average opacity value. Depending on the COMS downtime, or potentially other downtime in an hour, an hourly value could consist of less than 60 minutes.

The commenter has indicated concerns that “the CAM plan may not satisfy 40 CFR Part 64 requirements in that it may not obtain data that directly indicates the performance of the control devices, in this case the venturi scrubbers. It would appear as if additional indicators of performance besides opacity would be necessary to ensure proper operation and effectiveness of the scrubbers.” As explained above, additional performance indicators have been included in the CAM plan. These include monitoring of plumb bob  $\Delta P$  levels as well as monitoring of venturi spray operation.

#### 15. Monitoring Concerns.

##### **PERMIT SECTION and/or TOPIC: III.C.26**

**COMMENT:** PM Emissions from Boilers 3 and 4 (EU003 and EU004): The draft Title V Permit requires monitoring for PM emissions only once per year. This is also too infrequent and does not appear to ensure compliance with the applicable PM limits, in particular the pound/hour limit in the draft Title V Permit and the lb/mmBtu limit, which applies on a rolling three-hour basis. Although boilers 3 and 4 are subject to CAM requirements, it is unclear how the CAM plan will ensure compliance with the PM limits. We are concerned that, although the CAM plan relies on a 20% opacity indicator (measured as a three-hour average), there is no data showing that this is a reasonable and accurate threshold for assessing PM emissions and potential exceedances. It is also unclear whether the three-hour rolling opacity average is based on a rolling average of six-minute intervals, or whether it is based on hourly averages. Further, it is unclear how a three hour rolling opacity average will serve to assure compliance with hourly PM limits. The Title V Permit needs to be more explicit. Finally, it is unclear how the polluter will respond to remedy excursions from the 20% opacity indicator in order to ensure compliance with PM limits. We are also concerned that the CAM plan may not satisfy 40 C.F.R. Part 64 requirements in that it may not obtain data that directly indicates the performance of the control devices, in this case the venturi scrubbers. It would appear as if additional indicators of performance besides opacity would be necessary to ensure proper operation and effectiveness of the scrubbers. [WildEarth Guardians 6/16/11]

**DEPARTMENT RESPONSE:** Please refer to response to comment 14.

#### 16. Process Weight Rule Concerns.

##### **PERMIT SECTION and/or TOPIC: Section III.A.7 & III.A.8**

**COMMENT:** We are concerned that the draft Title V Permit does not appear to set actual particulate matter limits for several sources. For example, although the draft Title V Permit limits PM from coal handling and coal piles, the permit states only that PM emissions must be limited to no more than “ $E = 55.0 * P^{0.11} - 40$ , where E = emissions in pounds per hour and P = process weight rate in tons per hour.” Draft Title V Permit at 25. Similarly, Section III.A.7 and A.8 only set forth equations for calculating emissions, but no actual limits on PM. Fundamentally, this seems at odds with the Montana State

Implementation Plan (“SIP”), which sets explicit limits on PM emissions at ARM 17.8.308-310. In particular, ARM 17.8.310 sets explicit pound per hour limits. The Title V Permit does not appear to ensure compliance with those and other applicable PM limits. [WildEarth Guardians 6/16/11]

DEPARTMENT RESPONSE:

ARM 17.8.309 (2) states:

*When the heat input falls between any two consecutive heat input values in the preceding table, maximum allowable emissions of particulate matter for existing fuel burning equipment and new fuel burning equipment must be calculated using the following equations:*

$$\text{For existing fuel burning equipment: } E = 0.882 * H^{-0.1664}$$

$$\text{For new fuel burning equipment: } E = 1.026 * H^{-0.233}$$

*Where H is the heat input capacity in MMBtu per hour and E is the maximum allowable particulate emissions rate in lbs per MMBtu.*

ARM 17.8.310 (2) states:

*When the process weight rate falls between two process weight rate values in the table, or exceeds 3,000 tons per hour, the maximum hourly allowable emissions of particulate matter **must be calculated using the following equations:***

*(a) Maximum hourly allowable emissions of particulate matter, for process weight rates up to 30 tons per hour, must be calculated using the following equation:*

$$E = 4.10 P^{0.67}$$

*(b) Maximum hourly allowable emissions of particulate matter, for process weight rates in excess of 30 tons per hour, must be calculated using the following equation:*

$$E = 55.0 P^{0.11} - 40$$

*Where E = rate of emission in pounds per hour and P = process weight rate in tons per hour.”*

Section III.A of the Title V permit contains general facility-wide permit conditions, most of which have been established in rule to pertain to all facilities, as applicable. These permit conditions are often supplemented with more specific and detailed permit conditions applied to individual processes, units, combinations of units, etc., whether these permit conditions and limitations are derived through NSPS requirements, BACT determinations, established MACT standards, or other means by which would be deemed federally enforceable. Section III.A.7 refers to ARM 17.8.309 for calculating a numerical PM emission for fuel burning equipment based on the actual heating value of a particular fuel. ARM 17.8.309 also states, “For the purposes of this rule, heat input will be calculated as the aggregate heat content of all fuels (using the upper limit of their range of heating value) whose products of combustion pass through the stack or chimney.” The calculated value is compared to the numerical limit specified in the rule to confirm compliance with the limit. Likewise, Section III.A.8 refers to ARM 17.8.310 which provides an equation to calculate a numerical PM emission from other operations or activities based on the actual process rate of the emitting equipment. This value is compared to the numerical limit specified in the rule to confirm compliance with the limit. Because the values that the equations vary are based on capacity, the limits will also vary. The Department is satisfied that emission limits calculated with the equations specified in ARM 17.8.309 and ARM 17.8.310, which are approved rules within the Montana SIP are adequate to ensure compliance with the applicable PM limits.

In the case with Units 1 & 2 and Units 3 & 4, as conditioned under Section III.B.2, PPLM is not to discharge PM in excess of 0.10 lb/MMBtu from Units 1 & 2, collectively. Section III.C.2 restricts PPLM from discharging PM in excess of 0.05 lb/MMBtu from Units 3 & 4. These conditions are based on an NSPS determination (for Units 1 & 2) and the applicable limitation (BACT for Units 3 & 4). With reference to Coal Handling Systems and Coal Piles, as indicated in Section III.F.3, limitations in particulate emissions are calculated utilizing the equation within ARM 17.8.310(2)(b). The calculated limitation in lbs/hr is derived based on a process weight rate (tons/hr). The commenter has made reference to the lb/hr maximum hourly allowable emissions of particulate matter included in ARM 17.8.310. It shall be noted that the equations used for calculating these allowable particulate matter emissions values are indeed the equations under ARM 17.8.310.

In general when ARM 17.8.309 or ARM 17.8.310 are the applicable standards, the most appropriate compliance determining method is a Method 5 stack test. However, in some instances (coal handling systems and coal piles, for example), a Method 5 test cannot be conducted because of the nature of the emissions (fugitive versus point). In those instances, the appearance of visible emissions, measured with visual surveys and Method 9 tests, when necessary, more appropriately account for particulate emissions or lack thereof. In addition, the visual survey requirements include corrective action that can halt a potential emissions violation before it happens.

**17. Condition undermines enforceability of the Title V Permit.**

**PERMIT SECTION and/or TOPIC: Section III.B.8 & III.C.23**

**COMMENT:** As stated, “PPLM shall provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations of the Tangential Coal-Fired Boilers, Units 1 & 2 [and 3 & 4] (ARM 17.8.1504).” These conditions appear to undermine the enforceability and effectiveness of the Title V Permit and should be removed or revised to ensure the polluter at all times meets the applicable PM requirements in the draft Title V Permit. [WildEarth Guardians 6/16/11]

**DEPARTMENT RESPONSE:** The commenter makes reference to the requirement of providing “a reasonable assurance of compliance with emission limitations or standards” and indicates the appearance of the potential of this requirement to undermine the enforceability and effectiveness of the Title V Permit. As the condition references, the authority relied upon is provided within ARM Title 17, Chapter 8, Subchapter 15, Compliance Assurance Monitoring (CAM) as well as 40 CFR Part 64.

*ARM 17.8.1504 GENERAL CRITERIA FOR MONITORING DESIGN states: (1) To provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations at a pollutant-specific emissions unit, monitoring under this subchapter shall meet the following general criteria....*

The commenter does not specifically state “how” these conditions undermine the enforceability and effectiveness of the Title V Permit, and therefore the comment lacks substance to which the Department can respond. However, PPLM is required to “provide a reasonable assurance of compliance with emission limitations or standards for the anticipated range of operations” of the Tangential Coal-Fired Boilers, Units 1 & 2 and 3 & 4 by way of Compliance Assistance Monitoring, which has been developed in accordance with 40 CFR Part 64 as well as ARM 17.8.1504. It is critical to state that the indicators of emission control performance included within PPLM’s CAM Plan are considered applicable requirements of the Title V Permit. Therefore, no compromise in the enforceability and effectiveness of the Title V Permit is apparent as the commenter implies.

As previously mentioned in the response to comment 2, following issuance of draft Operating Permit #OP0513-07 and receipt of public comments, the Department requested and received an updated version of the CAM plan from PPLM. Updates included inclusion of additional performance indicators to aid in assuring compliance with particulate emission limits. In addition to opacity monitoring, monitoring of plumb bob pressure drop ( $\Delta P$ ) levels and venturi spray flows have been included within the CAM plan. Preventative maintenance is performed as per vendor recommendations, and modified per operational experience. Further, PPLM currently operates and maintains its venturi scrubbers to keep emissions below permit limits. PPLM’s CAM plan, including a description of each performance indicator is included as Appendix I of #OP0513-08.

**18. Monitoring requirements for heat input of boilers 3 and 4 are unenforceable.**

**PERMIT SECTION and/or TOPIC: Section III.C.35**

**COMMENT:** We are concerned that the requirements for monitoring heat input for boilers 3 and 4 are vague and unenforceable as a practical matter. It is unclear how a representative average Btu content will be calculated and how DEQ will ensure that this representative average is sufficient to ensure compliance with applicable heat input limits. [WildEarth Guardians 6/16/11]

#### DEPARTMENT RESPONSE:

The following conditions from the Permit are reiterated for reference:

- C.22 *PPLM shall not exceed the heat input value of  $6.63 \times 10^7$  MMBtu/yr averaged over any rolling 12-month period (ARM 17.8.749).*
- C.35 *Compliance with the heat input limit of Section III.C.22 shall be monitored based on the total tons of coal combusted in each of the boilers multiplied by a representative average Btu content for the coal. PPLM shall document, by month, the total fuel combusted in each boiler. By the 25<sup>th</sup> day of each month, PPLM shall calculate the tons of coal combusted for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section III.C.22. The information for each of the previous months shall be submitted along with the annual emission inventory. The coal analysis shall be done as required by the NO<sub>x</sub> CEMS Appendix G, Section 5, 6, and 7 (ARM 17.8.1213).*

Appendix G states, in relevant part:

5. *PPLM shall conduct a "Standard Practice for Ultimate Analysis of Coal and Coke", ASTM D5291-92, at a minimum of once per year for each fuel used.*
6. *PPLM shall determine the gross calorific value (GCV) of the fuels using ASTM D2015-91, "Standard Test Method for Gross Calorific Value of Coal and Coke by the Adiabatic Bomb Calorimeter" or other method as identified in 40 CFR Part 75, Appendix F, §3.3.6.2, at a minimum of once per year for each fuel used.*
7. *PPLM shall conduct a weekly fuel analysis using ASTM D4239-85 or other method approved by the Department.*

The Department recognized and corrected the following error in the ASTM reference method for the NO<sub>x</sub> CEMS Appendix G, Section 5.

PPLM shall conduct a "Standard Practice for Ultimate Analysis of Coal and Coke", ~~ASTM D5291-92~~, ASTM D3176-89 (Reapproved 2002), at a minimum of once per year for each fuel used.

The commenter states that the requirements for monitoring heat input for boilers 3 and 4 are vague and unenforceable as a practical matter. The commenter questions how a representative average Btu content will be calculated as well as how DEQ will ensure that this representative average is sufficient to ensure compliance with applicable heat input limits.

Heat input is a measurement of total fuel energy content and subsequently, rate of consumption, expressed in units of energy over a time period (i.e. Btu/hr, MMBtu/year). The requirements outlined within Appendix G allow for an evaluation of coal characteristics, including calculation of fuel energy values. PPLM operates a continuous sample system for each coal delivery shift (up to two per day). At timed intervals, a primary sample is "cut" from the conveyor stream. This primary sample may weigh up to 1,500 pounds. This sample is then crushed and mixed. A secondary sample of approximately 50 pounds is then pulled for analysis. Further splitting of the secondary sample is performed by an off-site lab analysis contractor who performs and reports the results. A split of the sample is retained for quality control. In essence, a representative sample is obtained from each delivery shift per unit and using the ASTM standards and the methods listed above, compliance can be determined.

#### **19. Section II.C.35 (Continuous Monitors) appears contradictory to applicable requirements.**

##### **PERMIT SECTION and/or TOPIC: Section II.C.35**

COMMENT: Section II.C.35 appears contradictory to applicable requirements in several regards.

Section II.C.35.e allows PPLM to update its quality assurance plan for its continuous emissions monitoring systems ("CEMS") simply by obtaining approval from DEQ. This gives the DEQ unlimited discretion to approve modifications to PPLM's quality assurance plan without public comment or EPA oversight and also appears to be at odds with Title V Permit modification requirements. If the quality assurance plan is revised and significant changes are made, it could trigger significant modification requirements under Title V. The draft Title V Permit, as written, would allow the DEQ to avoid significant modification requirements and thus cannot be included in any final Title V Permit. Section II.C.35.g appears to allow up to 15% of CEMS downtime annually and 25% downtime every quarter at units 3 and 4. This appears contradictory to applicable requirements, in particular monitoring

requirements under 40 C.F.R. Part 75 and 40 C.F.R. § 60.13, which require that CEMS operate continuously except only during certain situations. There does not appear to be any authority for allowing the polluter such monitor downtime, unless the monitor downtime is only during situations allowed by applicable requirements. It appears that Sections II.C.35.h and i are similarly inappropriate and contrary to applicable requirements in that they condone unacceptable monitor downtime for units 3 and 4. Section II.C.35.j appears contrary to applicable requirements as well. To begin with, it does not appear to be written clearly. Secondly, it appears to state that if the Title V Permit contradicts with applicable requirements, that the Title V Permit applies. If this is the case, then this provision is contradictory to Title V regulations and must be removed. [WildEarth Guardians 6/16/11]

**DEPARTMENT RESPONSE:** Although the commenter has made reference to Section III.C.35, it is clear that the commenter meant to refer to Section III.C.36 (which is now Section III.C.37). Each one of the conditions identified by the commenter is a substantive permit condition that cannot be changed through the issuance of the Title V operating permit. The requirements referred to in Section III.C.36 of draft #OP0513-07, as noted by the reference 40 CFR 52.21, originated from the PSD permit issued in 1979 by EPA. The conditions noted by the commenter have been established via a formal permitting process, have been subject to public review, and have been subject to a permit appeal process. The Department does not have the authority through the renewal of a Title V operating permit to change the referenced conditions. However, Section III.C.37.j has been clarified to emphasize its original point. The Department believes the language in question was added because EPA had included some specific requirements from 40 CFR Part 60, Subpart Da in the original PSD permitting action. Because federal regulations sometimes change over time (as Subpart Da has), the Department believes that Section III.C.35.j was intended to clarify that those conditions from Subpart Da included in the permit would continue to be applicable as written. As noted by the commenter, many regulations, specifically the Acid Rain regulations, are more stringent with respect to monitoring and do apply to this facility, regardless of the language as previously written in Section III.C.35.j. In addition, the original PSD permit was issued by EPA and cannot be changed by the Department, even through the Montana Air Quality Permit process.

**20. Section II.B.12 (Maintain and operate the scrubbers on Units 1 & 2) is vague and unenforceable.**

**PERMIT SECTION and/or TOPIC: Section II.B.12**

**COMMENT:** This condition is vague and unenforceable as a practical matter. It is unclear how PPLM will maintain and operate the scrubbers to control emissions to actually meet this requirement. It is unclear what specific activities PPLM must undertake to maintain the scrubbers, how frequently such maintenance must be conducted, and whether such maintenance and operation will be sufficient to ensure compliance with PM and other applicable limits.

Furthermore, we question why similar scrubber operation and maintenance requirements are not included for boilers 3 and 4. It would appear that, given that venturi scrubbers are utilized for these boilers, the Title V Permit should include requirements that ensure these control devices are properly operated. [WildEarth Guardians 6/16/11]

**DEPARTMENT RESPONSE:** Section III.B.12 requires PPLM to “maintain and operate the scrubbers to control emission on Units 1 & 2.” In essence, this condition requires PPLM to operate the scrubbers so that emissions are controlled, as well as maintain them so that they operate properly and as designed. The term “maintain” is defined in Merriam-Webster as “to keep in an existing state: preserve from failure or decline.” To ensure the adequacy of PPLM’s maintenance and operation, it is required to keep records of scrubber maintenance and operation available for review during DEQ inspections as well as report semiannually to DEQ of meeting this condition.

As for consistency between Units 1 & 2 and Units 3 & 4, these unit pairs were not constructed and permitted together. Units 1 & 2 were originally permitted under permit number MAQP #0513-00, issued to the Montana Power Company (MPC) in 1973. Units 3 & 4 were initially permitted under MAQP #1187, issued to MPC in 1977 (with EPA’s PSD permit following in 1979). In 1999, PPLM Montana, LLC (PPLM) purchased the units from MPC. In letters dated June 18, 1999, and August 16, 1999, the Montana Power Company and PPL Montana, LLC requested that the permits for Colstrip Units 1 & 2 and Colstrip Units 3



&4 be transferred to reflect the new ownership. The transfer of the permits was to occur when the transfer of ownership to PPL Montana, LLC was final. Through the Department's review, it was determined that Colstrip Units 1, 2, 3, and 4 would now be defined as one source. Therefore, the permit modification transferred the permit to the new owner, as well as combined MAQPs #0513-01 and #1187-04. The permit conditions remained the same, but were simply combined into one permit. MAQP #0513-02 replaced MAQPs #0513-01 and #1187-04.

The condition stated in Section III.B.12 originates from the permitting action resulting in MAQP #0513-04, which included the addition of petroleum coke to the list of fuels to be used in Units 1 & 2, which were previously permitted to burn only Syncoal and Rosebud coal. This permitting action limited the amount of petroleum coke that could be burned in Units 1 & 2. While Units 3 & 4 each utilize wet venturi scrubbers for PM pollution control, these Units operate under different conditions than Units 1 & 2 and, as such, have independent and specific sets of permit limitations.

The Department does not have the authority to add conditions to a Title V permit without a basis of enforceability such as conditions within a Montana Air Quality Permit, New Source Performance Standards, MACT, etc. However, the Department does have the authority to add or modify compliance demonstration language. The following compliance demonstration requirement has been added to #OP0513-08:

Section III.C.27. PPLM shall operate and maintain the venturi scrubbers in accordance with manufacturer recommendations to control emissions on Units 3 & 4 in demonstrating compliance with PM limitations (ARM 17.8.1213).

Additionally, the Department has added the following record keeping requirement:  
Section III.C.43 PPLM shall prepare and maintain records of all inspection, maintenance, and operation activities associated with the venturi scrubbers (ARM 17.8.1212).

## **21. Greenhouse Gas Applicability Concerns.**

### **PERMIT SECTION and/or TOPIC:**

COMMENT: The draft Title V Permit indicates that the greenhouse gas reporting requirements under 40 C.F.R. Part 98 are "NOT an applicable requirements under Title V." Draft Title V Permit at 6. It is unclear how the DEQ concluded that these requirements are not applicable under Title V. The permit either needs to be revised to ensure that these applicable requirements are fully incorporated and enforced, or explain why it believes the greenhouse gas reporting requirements are not applicable. [WildEarth Guardians 6/16/11]

DEPARTMENT RESPONSE: In the preamble to the final Mandatory Reporting of Greenhouse Gases Rule (74 FR 56260), EPA expressly stated that GHG reporting requirements are not applicable requirements with respect to Title V permitting: "As currently written, the definition of "applicable requirement" in 40 CFR 70.2 and 71.2 does not include a monitoring rule such as today's action, which is promulgated under CAA sections 114(a)(1) and 208 [42 USC §§ 7414(a)(1) and 7542]." The definition of "applicable requirement" in 40 CFR 70.2 is consistent in this respect with the definition of "applicable requirement" in ARM 17.8.1201(10) for Montana's Title V Program.

## **22. Encouragement for the DEQ and PPLM work with the Tribe to ensure an adequate permit.**

### **PERMIT SECTION and/or TOPIC:**

COMMENT: From reading the history of the permit changes, it is clear that there have been numerous issues with the Northern Cheyenne Tribe and upholding the standards of the Tribe's Class I air shed. We urge PPL Montana and the Department of Environmental Quality (DEQ) to proactively work with the Tribe to make sure that this latest permit renewal is in accordance with the Tribe's standards before it is renewed with inadequate information. [NPRC 6/6/11]

DEPARTMENT RESPONSE: The Department values its interaction during the permitting process with all affected parties, including but not limited to the Northern Cheyenne Tribe. The Department seeks the input of all affected parties in accordance with laws defining the notice and comment requirements. Because the Department is required by statute to issue or deny permits based solely on compliance with

Federal and Montana Clean Air Act (CAA) regulations, the Department reviews interested party comments to determine the applicability of the comment. Further, the public participation process is conducted accordingly, so affected parties are afforded additional opportunity to affect the outcome.

Also, as stated previously, through the review of the administrative process of issuance of draft permit #OP0513-07, the Department determined that it did not meet its obligation under ARM 17.8.1233, specifically giving notice to all "Affected States" (or entities, as is applicable in this case) as defined under ARM 17.8.1201(3). The Department did not notify the Northern Cheyenne or the Crow Tribes during the draft issuance of permit #OP0513-07. Therefore, the Department is re-issuing the draft permit as permit #OP0513-08 and has included responses to comments received on draft permit #OP0513-07. The Department is notifying the two tribes, as well as the states of Wyoming, North Dakota, and South Dakota, of the availability of the draft permit and the opportunity to comment.

### **23. Hourly PM limits with monitoring requirements based on an annual test...doesn't appear to be appropriate monitoring.**

#### **PERMIT SECTION and/or TOPIC: Particulate Matter Monitoring**

COMMENT: For the permit conditions for Units 1 & 2 and 3 & 4, both require particulate matter (PM) limits that are hourly. However, the monitoring requirements are based on an annual test. How will the company meet these hourly standards if monitoring is required only once a year? This should be changed to ensure permit compliance and in general all pollutant limits should be sufficiently enforced with appropriate monitoring. [NPRC 6/6/11]

DEPARTMENT RESPONSE: The Department believes an accurate representation of PM concentrations is derived through this annual monitoring test as well as a compilation of the use of other methods of PM monitoring and control measures including opacity limitations determined through the use of COMS, quality control and quality assurance through the requirements outlined within PPLM's CAM plan, as well as scrubber operation and maintenance in accordance with manufacturer/vendor recommendations, modified per PPLM's operational experience. Please also refer to comment responses 2, 14 and 15 for additional information.

### **24. BART/GHG/Regional Haze.**

#### **PERMIT SECTION and/or TOPIC: Green House Gas Compliance, BART, and other upcoming rules**

COMMENT: There are several proposed rules that are in the works from the U.S. Environmental Protection Agency (EPA). Although this permit contains conditions to re-open it if rules addressing BART occur, the permit does not contain any conditions that will require it to be re-opened if any green house gas (GHG) rules are developed. We suggested adding this in. In addition, with the recent court ruling on regional haze issues (Attachment 1) it is clear that rules concerning this will be established by October 2011. The permit needs to address this possibility and add in a re-opener provision. [NPRC 6/6/11]

DEPARTMENT RESPONSE: In general, "re-opening" provisions are contained in the rules that govern the permit type, not in the permit itself. The BART "re-opening" conditions that are referred to by the commenter (Section III.C.18) are specific to the original EPA Prevention of Significant Deterioration (PSD) Permit issued in 1979 for Colstrip Units 3 and 4. As such, this requirement became a substantive permit requirement and is now part of the Title V permit.

With respect to future requirements that PPLM Colstrip may become subject to, as previously mentioned, there is an administrative rule that addresses additional requirements for Montana Air Quality Operating Permits with respect to reopening and revision for cause, ARM 17.8.1228. In this case, ARM 17.8.1228(1)(a) would apply:

"(1) An air quality operating permit may be reopened and revised only under the following circumstances:

(a) Additional applicable requirements under the FCAA become applicable to a major source holding a permit with a remaining term of three or more years. Reopening and revision of the permit shall be completed not later than 18 months after promulgation of

the applicable requirement. No reopening is required under this subsection if the effective date of the applicable requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to ARM 17.8.1220(12) or 17.8.1221(2)."

Therefore, there is no need to add in a "re-opener provision" to the permit.

With respect to the commenter's mention of the Regional Haze Rule and its potential impacts, EPA is expected to issue a final Federal Implementation Plan that includes BART requirements for Montana sources in August of 2012. Depending on the nature of the BART requirements, those requirements may require updates to (and therefore, applications to update) Montana Air Quality Permits as well as Title V Operating Permits for those facilities subject to BART provisions.

## **25. Illegible Appendix H.**

### **PERMIT SECTION and/or TOPIC: Appendix H**

COMMENT: This attachment is a very bad photocopy and is illegible. A revised, readable copy should be distributed to concerned parties and posted on the DEQ website. [NPRC 6/6/11]

DEPARTMENT RESPONSE: The Department was able to obtain a more legible version of this Appendix. The commenter is encouraged to refer to Appendix H again.

## **26. Question of adequacy of permit levels considering these facilities were permitted almost 40 years ago. Additionally, DEQ should summarize the effects of the permit and clarify in order to increase public involvement. [NPRC 6/6/11]**

### **PERMIT SECTION and/or TOPIC: Health of the surrounding community**

COMMENT: In general a health study of the Colstrip area as well as the communities downwind should be undertaken in order to determine if the permit levels are adequate for the health of the communities. These facilities were permitted almost 40 years ago and the health impacts from them have most certainly increased as the population of the area has increased. Finally, the permit process in general is fairly prohibitive for citizens to participate in. An air quality specialist or lawyer is a necessity in reading these permits. The DEQ should consider a way to summarize the effects of the permit in layman's terms in order to increase public involvement.

DEPARTMENT RESPONSE: The subject permit has been issued under the Title V Operating Permit Program established in the 1990 Clean Air Act Amendments. PPLM is required to operate and maintain compliance with both the Title V Operating Permit as well as the current MAQP #0513-08. Both the Federal Clean Air Act and the Montana Clean Air Act provide for changes in permits based on modifications at currently operating facilities as well as public participation in those permitting processes. Other new regulations are established within the permits as conditions as they are finalized and determined to be applicable and a need for either amendment or modification to the permit is identified under the timelines established within the regulations. The Department is required to use specific terminology in most cases when placing permit conditions on a facility, but the Department does issue an analysis associated with each permit action, the TRD, to provide information on the permit. The Department refers interested parties to the TRD issued in conjunction with the operating permit to better understand the permit, its history, and requirements contained therein.

## **27. Changes/updates associated with Emitting Units.**

### **PERMIT SECTION and/or TOPIC: Page 11, Section B. Emissions Units and Pollution Control Device Identification.**

COMMENT: The following changes have been made to the noted Emission Units' (EU) pollution control devices or practices and should be reflected in the table

a. EU003 & EU004, Tangential Coal Fired Boilers – in addition to the wet venturi scrubber for SO<sub>2</sub> and particulate control, the units are also equipped with advanced low NO<sub>x</sub> firing and digital controls for NO<sub>x</sub> control

- b. EU006 Building Heater Boiler (3&4) – Fabric filters/enclosures are erroneously listed as control devices. The “Pollution Control Device/Practice” listing for this source should be the same as for the Auxiliary Propane Boiler (1&2).
- c. EU007, Coal Handling System Units 1&2 – In addition to the controls listed, dustless transfer chutes have also been added to certain locations within the system. Additionally, a more technically correct designation for our pollution control at the coal belt/coal pile transfer point is “enclosed downspout with elevation doors”, rather than “telescopic chute”.
- d. EU008 – Coal Handling System (et.al.) Units 3&4 – Enclosed conveyors, dust suppression, and enclosed downspouts with elevation doors are also control devices on this system; in addition, fabric filters have been replaced with dustless transfer chutes.
- e. EU009 Coal Piles (Wind Erosion) – a wind fence has been added at one coal pile and water application through sprays or water trucks is also an additional control practice
- f. EU016, Alternate Fuel Loading (Syn Coal and Pet Coke) – PPLM is requesting removal of these sources and all related requirements from our Title V permit. These sources are no longer used and we have no intention of using them again. We will work with the Department as needed to also have these removed from our MAQP. This comment also applies to Section A. Emission Limits and Standards, First Paragraph on Page 13. [PPLM 6/15/2011]

**DEPARTMENT RESPONSE:** The Department incorporated the aforementioned information within the permit.

## **28. Confirmation of adequacy and Department acceptance of electronic document access and storage [PPLM 6/15/2011]**

**PERMIT SECTION and/or TOPIC:** Page i, first paragraph, last line – requirement for a copy of the permit at the site.

**COMMENT:** We would like DEQ to confirm that an electronic copy of the permit accessed at the site, meets this requirement. PPLM, like many other companies, is storing more and more of its records and working documents electronically. The Department’s stated preference for electronic copies of any SSM plan suggests that the Department would agree that electronic copies on site would be acceptable. This comment is also applicable to Condition B.28 on Page 10, C38, 39, and 47 on Pages 18 & 19, D.9 & 10 on Page 22, E.9-11 on Pages 23 & 24, F.11 on Page 26, G8 on Page 27, H7-9 on Page 29, J.6 on Page 33, L.6 on Page 37 and possibly other conditions not specified here. [PPLM 6/15/2011]

**DEPARTMENT RESPONSE:** The commenter is requesting confirmation that electronic copies of permits, logs, reports, etc. are adequate for meeting the requirement of maintaining copies of the documents at the site. ARM 17.8.1212(2) states *“Each air quality operating permit shall incorporate all applicable recordkeeping requirements and require, where applicable, the following:… (b) Retention of records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sample, measurement, report, or application… All monitoring data, support information, and required reports and summaries may be maintained in a computerized form at the plant site if the information is made available to department personnel upon request, which may be for either hard copies or computerized format. Strip-charts must be retained in their original form at the plant site and shall be made available to department personnel upon request.”* In addition, ARM 17.8.1513(4) – Reporting and Recordkeeping Requirements states that *“Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.”* The Department agrees that maintaining electronic copies of facility documents such as permits, logs, and records at the site is adequate.

## **29. Administrative changes. [PPLM 6/15/2011]**

**PERMIT SECTION and/or TOPIC:** Page 1, PPL Montana, LLC address

**COMMENT:** The mailing address for PPLM corporate headquarters is 303 N Broadway, Suite 400, Billings, MT 59101

**PERMIT SECTION and/or TOPIC: Page 1, Responsible Official Phone Number**

COMMENT: The direct-dial phone number is 406-237-6932

**PERMIT SECTION and/or TOPIC: Page 2, Emitting Unit Summary Table**

COMMENT: See comment above on changes to noted EU's

**PERMIT SECTION and/or TOPIC: Page A-1, Appendix A, Table of Insignificant Activities**

COMMENT: Typographical error in "Description" column for IEU14

DEPARTMENT RESPONSE: The aforementioned administrative changes have been incorporated within the permit.

**30. Deletion of requirements related to Syncoal and Pet Coke. [PPLM 6/15/2011]**

**PERMIT SECTION and/or TOPIC: Page 7, Section B Requirements Table For EU001 and EU002**

COMMENT: PPLM requests deletion of all requirements related to Syncoal and Pet Coke.

**PERMIT SECTION and/or TOPIC: Page 8, Conditions B.9-11**

COMMENT: PPLM requests deletion of these conditions related to Syncoal and Pet Coke.

**PERMIT SECTION and/or TOPIC: Page 9 Conditions B.21 & 22**

COMMENT: PPLM requests deletion of these conditions related to Syncoal and Pet Coke.

**PERMIT SECTION and/or TOPIC: Pages 34 and 35, Section K. Alternate Fuel Loading Systems (Syncoal and Pet Coke)**

COMMENT: PPLM requests deletion of these conditions related to Syncoal and Pet Coke.

DEPARTMENT RESPONSE: References to Syncoal and Pet Coke have been removed as requested.

**31. Request for clarification.**

**PERMIT SECTION and/or TOPIC: Page 18, Condition C.37, CAM Plan Availability**

COMMENT: PPLM requests that DEQ clarify the meaning of the phrase "available in full upon request by the Department or the facility." [PPLM 6/15/2011]

DEPARTMENT RESPONSE: The Department has removed the phrase referred to in the comment. PPLM submitted an updated version of the CAM plan at the request of the Department, and the Department has updated the CAM plan within the permit.

**32. Request for background leading to the modification of this compliance demonstration requirement.**

**PERMIT SECTION and/or TOPIC: Page 25, Condition F.5. Frequency of Visual Inspections in Visual Survey Option**

COMMENT: We request the background leading to the modification of this compliance demonstration requirement. In addition, the summary tables for the applicable EUs, as well as the Technical Review Document, still contain references to bi-monthly visual inspections. This comment is also applicable to Condition I.3 on Page 31, and Condition M.3 on Page 38. [PPLM 6/15/2011]

DEPARTMENT RESPONSE: The commenter requests the background leading to the increased frequency of the visual inspection compliance demonstration. In addition it noted that the summary tables for the applicable Emitting Units (EU), as well as the Technical Review Document, still contain references to bi-monthly visual inspections. The Department understands that it is not feasible to monitor fugitive emissions from the coal handling systems, lime handling system, emergency generators, process ponds, and plant roads continuously, and the frequency of significant emissions from these sources is very low. However, part of the intent behind requiring visual surveys on emitting units is encouraging facilities to become more aware of day-to-day operation and fluctuations within their processes and how those operations affect visible emissions, which generally results in more proactive operation and less visible emissions overall. The weekly frequency of visual surveys has developed over the history of Montana's implementation of the Title V permit program and the Department believes it is consistent with sources in Montana as well as throughout the Region. The increased frequency of the visual surveys will provide a more accurate representation of the opacity at these emitting units. The Department agrees that the draft permit #OP0513-07 included typographical errors in the referenced EU summary tables, and the tables have been corrected.

**33. Permit implications as a result of the removal of mercury monitoring requirements from 40 CFR Part 75. [PPLM 6/15/2011]**

**PERMIT SECTION and/or TOPIC: Page 36, Conditions L.4 and L.5, References to Mercury Emission Monitoring System (MEMS) Operating and Performance Requirements in 40 CFR Part 75**

COMMENT: EPA, in a March 28, 2011, rulemaking (76 FR 17,288), removed the mercury monitoring requirements from 40 CFR Part 75. When these deletions are officially adopted by Montana, the references in this permit will be referring to obsolete or non-existent requirements. This comment is also applicable to Appendix J Mercury Emissions Monitoring System (MEMS). In addition, PPLM requests that the deletion of the bias test and data substitution requirements for mercury monitoring be specified in this permit. [PPLM 6/15/2011]

DEPARTMENT RESPONSE: As PPLM is aware, the references to 40 CFR Part 75 were included in the MAQP for the facility pursuant to the mercury monitoring requirements under ARM 17.8.771. Attachment 2 in the MAQP would need to be updated prior to any changes being made to the Mercury Emission Monitoring Systems (MEMS) Appendix in the Title V permit because the MAQP attachment is the underlying requirement/authority for the same attachment being in the Title V permit appendix. The bias test requirement can be removed upon request for an administrative amendment (AA) to the MAQP as described in the Department's letter to PPLM from Roger Godfrey dated October 21, 2010. Similar discussions (as well as an AA request) would need to take place to establish appropriate data substitution requirements.

**SECTION VII. DRAFT PERMIT #OP0513-08**  
**SUMMARIZED COMMENTS AND DEPARTMENT RESPONSES**

The Department provided a comment period for Draft Operating Permit #OP0513-08 that began on August 10, 2012, and ended on September 24, 2012. The following comments were received during the public comment period. Minor changes have been incorporated in the Proposed Operating Permit #OP0513-08 resulting from the comments received.

**1. “DEQ has failed to ensure compliance with the one-hour ambient standards for SO<sub>2</sub> as necessary to protect public health.”**

COMMENT:

DEQ has failed to assure compliance with health-based standards for short-term exposures to SO<sub>2</sub>.

Based on air dispersion modeling performed on behalf of MEIC and Sierra Club, DEQ must establish a 1-hour SO<sub>2</sub> emission limit for Colstrip Units 1 and 2 that is no greater than 1,040 lb/hr for each unit.

DEQ’s draft Title V permit for Colstrip improperly authorizes emissions that would violate the 1-hour SO<sub>2</sub> NAAQS and, consequently, DEQ’s mandate to “maintain and improve a clean and healthful environment in Montana for present and future generations.” Mont. Const., art. IX, § 1. [Earthjustice (MEIC/Sierra Club) 9/24/2012]

DEPARTMENT RESPONSE:

Draft Operating Permit #OP0153-08 applies the current applicable requirements and associated sulfur dioxide (SO<sub>2</sub>) conditions, compliance demonstrations, recordkeeping and reporting requirements. These requirements apply to EU1, EU2, EU3, and EU4, Tangential Coal Fired Boilers Units 1-4, contained in Sections III.B and III.C of the proposed permit. The commenter stated that the Department failed to apply a new 1-hr SO<sub>2</sub> limitation in relation to the new 1-hr SO<sub>2</sub> National Ambient Air Quality Standards.

On August 23, 2010, EPA’s new 1-hour SO<sub>2</sub> NAAQS of 75 parts per billion (ppb), which is attained when the 3-year average of the annual 99th-percentile of 1-hour daily maximum concentrations does not exceed 75 ppb at each monitor within an area, became effective. EPA revised the primary SO<sub>2</sub> NAAQS to provide the requisite protection of public health. As defined by Administrative Rules of Montana (ARM) 17.8.201(2), “Ambient air quality standards’ means a permissible level of an air contaminant in the ambient air as defined by the maximum frequency with which a specified level may be exceeded or by a maximum level of an air contaminant in or on body or plant tissues.”

As stated in the *EPA White Paper for Streamlined Development of Part 70 Permit Applications July 10, 1995*, “In general, this program [Title V Operating Permit Program] was not intended by Congress to be the source of new substantive requirements. Rather, operating permits required by title V are meant to accomplish the largely procedural task of identifying and recording existing substantive requirements applicable to regulated sources and to assure compliance with these existing requirements. Accordingly, operating permits and their accompanying applications should be vehicles for defining existing compliance obligations rather than for imposing new requirements or accomplishing other objectives.”

Also, the Department agrees with EPA’s statement in its August 23, 2010, *Guidance Concerning the Implementation of the 1-hour SO<sub>2</sub> NAAQS for the Prevention of Significant Deterioration Program*, in which EPA stated, “EPA interprets the Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act and EPA regulations to require that any federal permit issued under 40 CFR 52.21 on or after [August 23, 2010] must contain a demonstration of source compliance with the new 1-hour SO<sub>2</sub> NAAQS.” In addition, the Department agrees that the PSD provisions in the Montana regulations require that any State of Montana air quality permit issued under ARM Title 17, chapter 8, subchapter 8 on or after the effective date (August 23, 2010) must contain a demonstration of source compliance with the new 1-hr SO<sub>2</sub> NAAQS.

To the knowledge of the Department, PPLM has not undertaken any modifications that triggered review under ARM Title 17, chapter 8, subchapter 8 since the effective date of August 23, 2010, and therefore; PPLM has not triggered a review of the new 1-hour SO<sub>2</sub> NAAQS.

The commenter also makes the statement that, "*The SIP process is not sufficient to satisfy DEQ's constitutional obligations ...*" The Department strongly disagrees with this statement and believes that the authority to implement the new 1-hr SO<sub>2</sub> NAAQS is based in both the SIP process and any modifications that would trigger a review and analysis of the 1-hr SO<sub>2</sub> NAAQS. When any NAAQS is revised (such as the SO<sub>2</sub> NAAQS), EPA is required to promulgate the ambient air quality designation status for all states. EPA promulgated the one-hour SO<sub>2</sub> NAAQS in June 2010. 42 USC 7407(1)(B) of the FCAA provides that the period for making these demonstrations may be extended for up to one year in the event EPA has insufficient information to promulgate the designations. To date, EPA has not promulgated designations. In the absence of EPA promulgation of the designations, DEQ is not required to propose a modification to the SIP for the 1-hr SO<sub>2</sub> NAAQS. When EPA acts, states will then address applicable rules and SIP modifications pertinent to the revised NAAQS and designations.

Section 75-2-102, MCA, of the Clean Air Act of Montana states that the Legislature was mindful of the right to a clean and healthful environment in Mont. Const. Art. II, § 3, and the state's duty to maintain a clean and healthful environment in Mont. Const. Art. IX, § 1, when it passed the Clean Air Act of Montana. That act, the Legislature stated, provides adequate remedies for protection of the environmental life support system and natural resources.

In *Mont. Env'tl. Info. Ctr v. Mont. Dep't Env'tl. Quality*, 2002 ML 3836; 2002 Mont. Dist. LEXIS 1864, the Montana First Judicial District Court for Lewis and Clark County held that a plaintiff, to properly allege that an action by a state agency is unlawful, must allege either that the challenged act was undertaken in violation of the applicable law or rule, or that the law (or its implementing rules) was unconstitutional on its face or as applied. The court noted that "[t]he party challenging the constitutionality of a statute bears the burden of proving the statute unconstitutional beyond a reasonable doubt."

Because the plaintiff had not alleged that the state agency had violated a law or rule, and had not alleged that a law or rule was unconstitutional, its claim of unconstitutionality was dismissed.

Here, the commenter does not point to a specific law or rule that is allegedly being violated or is unconstitutional because it violates the right to a clean and healthful environment.

As discussed above, if required after EPA makes its designation, DEQ will propose modifications to the SIP and any necessary rules. However, until EPA makes a designation, DEQ is under no requirement to act, and any action would be premature.

## **2. "The Colstrip Title V permit must include specific provisions to assure compliance with Montana's Regional Haze FIP."**

### **COMMENT:**

The draft operating permit fails to assure compliance with all applicable requirements because it does not include emission limits and related requirements established by Montana's Regional Haze FIP. EPA signed a final rule promulgating Montana's Regional Haze FIP on August 15, 2012 and published it in the Federal Register on September 18, 2012. See 77 Fed. Reg. 57,864 (Sep. 18, 2012). EPA adopted the FIP pursuant to its authority under section 110(c) of the federal Clean Air Act, 42 U.S.C. § 7410(c), to satisfy the Act's requirement to address visibility impairment at federal Class I areas. Thus, FIP conditions are applicable requirements pursuant to ARM 17.8.1201(10)(b).

The Montana Regional Haze FIP established new emission limits for Colstrip Units 1 and 2, specifically: 0.10 lbs/MMBtu of PM; 0.08 lbs/MMBtu of SO<sub>2</sub>, and 0.15 lbs/MMBtu of NO<sub>x</sub>. 40 C.F.R. § 52.1396(c). Compliance with PM limits must be achieved by November 15, 2012. Id. § 52.1396(d). "Compliance with SO<sub>2</sub> and NO<sub>x</sub> limits is required within 180 days of [October 16, 2012], unless installation of



additional emission controls is necessary to comply with emission limitations under this rule, in which case compliance is required within five years of [October 16, 2012]." Id. Although these regional haze requirements have future-effective compliance dates, they will apply to Colstrip within the 5-year duration of Colstrip's Title V permit and therefore must be incorporated, along with all monitoring, record-keeping, and reporting requirements outlined in the FIP. See ARM 17.8.1201(10); see also 40 C.F.R. § 70.2.

[Earthjustice (MEIC/Sierra Club) 9/24/2012]

#### DEPARTMENT RESPONSE:

The Department certainly acknowledges the applicability of the future limitations set forth for PPLM as a result of Montana's Regional Haze FIP.

The limitation listed as Best Available Retrofit Technology (BART) for particulate matter (PM) is 0.10 lb/MMBtu with a compliance timeframe of 30 days after the effective date of the FIP. The final rule is effective October 18, 2012 (77 FR 57864, Sep. 18, 2012). Compliance with the PM limitations must be achieved by November 17, 2012 rather than the November 15, 2012 date as indicated by the commenter. PPLM is currently operating with PM permit limits of 0.10 MMBtu/hr for Units 1 and 2, which is identical to the PM limitation approved in Montana's Regional Haze FIP. No changes to the Title V operating permit appear to be necessary.

As the commenter has reiterated, compliance with the SO<sub>2</sub> and NO<sub>x</sub> limitations set forth within the FIP must be achieved within 180 days after the effective date of the FIP where installation of additional controls is not necessary to comply with the BART limit; otherwise the compliance deadline is five years after the effective date of the FIP. PPLM will be required to install additional controls to meet an SO<sub>2</sub> limit of 0.08 lbs/MMBtu and a NO<sub>x</sub> limit of 0.15 lbs/MMBtu, with a compliance deadline of October 18, 2017.

The commenter is reminded that the effective date of the rule is October 18, 2012. As stated in ARM 17.8.1228, "Additional applicable requirements under the FCAA become applicable to a major source holding a permit with a remaining term of three or more years. Reopening and revision of the permit shall be completed not later than 18 months after promulgation of the applicable requirement." Although the requirements contained within Montana's Regional Haze FIP are applicable requirements, the Department has up to 18 months following promulgation to have the permit reopened and revised. Therefore, inserting limitations required under Montana's Regional Haze FIP within the Title V operating permit is unnecessary at this time.

The Department has included a statement within Section V of the Technical Review Document (TRD) for the OP0513-08 listing applicability of the Regional Haze FIP requirements as a future consideration.

### **3. "The Colstrip Title V permit must include specific provisions to assure compliance with Hazardous Air Pollutant Standards."**

#### COMMENT:

The draft operating permit likewise fails to assure compliance with 40 C.F.R. 63, Subpart UUUUU – National Emission Standards for Hazardous Air Pollutants ("NESHAPs") from Coal- and Oil-Fired Electric Generating Units. DEQ acknowledges that the NESHAPs are an applicable requirement, as the technical review document identifies "Maximum Achievable Control Technology (MACT)" pursuant to 40 C.F.R. 63, Subpart UUUUU, as an "applicable air quality program[]." TRD0513-08, p.1. However, DEQ has failed to specifically identify MACT emission limits in the draft permit.

The NESHAPs have already been promulgated, with an effective date of April 16, 2012. 77 Fed. Reg. 9,304 (Feb. 16, 2012). Pursuant to these standards, the Colstrip units must comply with limits on the emissions of hazardous air pollutants such as mercury, acid gases (or SO<sub>2</sub> as a surrogate), and metallic hazardous air pollutants (or particulate matter as a surrogate) by April 16, 2015. 40 C.F.R. §§ 63.9984,

63.9991. This compliance deadline falls within the five-year period that would be covered by any final operating permit issued here. As such, the NESHAPs qualify as an "applicable requirement," ARM 17.8.1201(10), and the draft permit must be revised to specifically require that each of the Colstrip generating units come into compliance with the NESHAPs by April 15, 2015.

In addition, the Draft Permit must be revised to include provisions needed to make the requirement to comply with the NESHAPs enforceable. For example, utilities have choices under the NESHAPs as to whether to satisfy limits for specific hazardous air pollutants or for other pollutants that are purportedly surrogates for those hazardous air pollutants. 40 C.F.R. 63, Subpart UUUUU, Tables 2-4. The regulation also sets forth a range of options regarding what steps need to be taken to monitor and demonstrate compliance with the NESHAPs. *Id.* By identifying in the permit the specific emission limits and standards that the Colstrip units will need to satisfy to comply with the NESHAPs, the Title V permit would "clarify and make more readily enforceable a source's pollution control requirements," including making clear how general regulatory provisions apply to specific sources. S. Rep. 101-228, 1990 USCAAN 3385, 3730 (Dec. 20, 1989). Without such provisions, the permit would unlawfully fail to "assure compliance" with all applicable requirements. 42 U.S.C. § 7661c(a),(c); 40 C.F.R. § 70.6(c)(1).

Updated particulate matter ("PM") controls will be necessary at Colstrip Units 1 through 4 to meet EPA's PM limit for non-mercury metal hazardous air pollutants. Specifically, EPA adopted a PM limit of 0.03 lb/MMBtu as a surrogate for non-mercury metal hazardous air pollutants. Colstrip Units 1 and 2 already emit filterable PM at rates close to twice that of the EPA's proposed 0.03 lb/MMBtu total PM limit (at 0.047 and 0.058 lb/MMBtu, respectively<sup>10</sup>) and also are currently subject to a PM limit more than three times the MACT limit (0.10 lb/MMBtu). Likewise, Colstrip Units 3 and 4 are currently subject to a PM limit (0.05 lb/MMBtu) greater than the new MACT limit. Consequently, improved PM controls will be necessary to meet a total PM MACT limit of 0.03 lb/MMBtu.

Further, the NESHAPs establish an acid gas limit for HCl of 0.002 lb/MMBtu or, alternatively, utilities can elect to comply with a surrogate limit on SO<sub>2</sub> of 0.20 lb/MMBtu. Although Colstrip Units 1 and 2 may be able to comply with the SO<sub>2</sub> surrogate MACT limit through pollution-control upgrades necessary to achieve the units' regional haze limit of 0.08 lb/MMBtu, DEQ must assure compliance with the new MACT limit by or before the NESHAPs effective date of April 2015.

DEQ must revise the draft operating permit to incorporate specific NESHAPs emission limits and associated monitoring, record-keeping, and reporting requirements applicable to Colstrip Units 1 through 4.

[Earthjustice (MEIC/Sierra Club) 9/24/2012]

#### DEPARTMENT RESPONSE:

The Department acknowledges the applicability of the future limitations set forth for PPLM as a result of 40 CFR 63, Subpart UUUUU – National Emission Standards for Hazardous Air Pollutants ("NESHAPs") for Coal and Oil-Fired Electric Generating Units, which was published as final in the Federal Register on February 16, 2012, with an effective date of April 16, 2012.

As required under 40 CFR. 63, Subpart UUUUU, an existing EGU (i.e. PPLM Colstrip) must comply with the subpart no later than April 16, 2015, unless an extension is granted per 40 CFR 63.6(i). As stated in ARM 17.8.1228, "Additional applicable requirements under the FCAA become applicable to a major source holding a permit with a remaining term of three or more years. Reopening and revision of the permit shall be completed not later than 18 months after promulgation of the applicable requirement." Although the requirements contained within 40 CFR 63, Subpart UUUUU are applicable requirements, the Department has up to 18 months following promulgation to have the permit reopened and revised. In addition, because of the multiple compliance options available with respect to different pollutants (for example, compliance with standards for acid gas hazardous air pollutants can be met using a hydrochloric acid or SO<sub>2</sub> emission limit), adding specific limits at this time would be premature. Therefore, inserting limitations required under 40 CFR 63, Subpart UUUUU within the Title V operating permit is unnecessary at this time.

While changes in PM control may ultimately be necessary as a result of future limitations and requirements associated with 40 CFR 63, Subpart UUUUU, PPLM is meeting the PM limitations set forth for them within their current Title V permit. As documented in the Department's Full Compliance Evaluation (FCE) report dated January 17, 2012, recent stack tests performed on Units 1-4 yielded the following results:

Date <sup>1</sup>	Unit 1	Date <sup>1</sup>	Unit 2	Date <sup>1</sup>	Unit 3	Date <sup>1</sup>	Unit 4
8/27/2010	0.031 lb/MMBtu	7/6/2010	0.026 lb/MMBtu	7/6/2010	0.022 lb/MMBtu	7/6/2010	0.019 lb/MMBtu
11/25/2011	0.027 lb/MMBtu	11/25/2011	0.037 lb/MMBtu	4/20/2011	0.020 lb/MMBtu	4/20/2011	0.031 lb/MMBtu
Average	<b>0.029 lb/MMBtu</b>	Average	<b>0.032 lb/MMBtu</b>	Average	<b>0.021 lb/MMBtu</b>	Average	<b>0.025 lb/MMBtu</b>
PM Limit	0.1 lb/MMBtu	PM Limit	0.1 lb/MMBtu	PM Limit	0.05 lb/MMBtu	PM Limit	0.05 lb/MMBtu

<sup>1</sup> Date of which the test reports were received by the Department.

As a further note for future reference and consideration, 40 CFR 63, Subpart UUUUU allows for the use of emissions averaging if a facility has more than one existing EGU in the same subcategory located within a contiguous area, belonging to a single major industrial grouping under common control..." (40 CFR 63.10009). This subpart allows for facility-wide averaging associated with compliance with the associated limitations.

#### 4. "The Colstrip Title V permit fails to require sufficient PM Monitoring."

##### COMMENT:

The draft operating permit fails to require monitoring of particulate matter (PM) sufficient to "assure compliance with the permit terms." 42 U.S.C. § 7661c(c); ARM 17.8.1213(2). The permit incorporates Colstrip's PM emissions limits of 0.1 lb/MMBtu (3-hour average) for Units 1 & 2, and 0.05 lb/MMBtu (3-hour average) and 379 lb/hr for Units 3 & 4. See Draft Permit, conditions B.2, C.2, C.3. Additionally, the permit establishes a limit for gaseous PM emissions of 0.10 lb/MMBtu from Units 3 & 4. See Draft Permit, condition C.4. The draft permit would require PM-emissions monitoring for all four Units by Method 5 or 5b – an annual stack test for filterable PM. See Draft Permit, conditions B.15, C.26. Despite DEQ's responses to Sierra Club and MEIC's June 16, 2011, comments on the previous version of the draft permit, the permit's monitoring requirements for PM remain inadequate.

The Draft Permit must be revised to require the use of PM Continuous Emissions Monitors (CEMs) for monitoring compliance at each unit so that DEQ satisfies its duty to "set forth inspection, entry, monitoring, compliance certification, and reporting requirements to assure compliance with the permit terms and conditions." 42 U.S.C. § 7661c(a),(c); see also 40 C.F.R. § 70.6(c)(1); ARM 17.8.1212. Furthermore, even if continuous particulate monitoring were not necessary (and it is), more than three hours of the 8,760 hours in a year must be monitored to ensure compliance with Colstrip's PM limits.

In addition, MEIC and Sierra Club previously commented that DEQ must require monitoring for total particulate—both filterable and condensable portions. First, such monitoring is expressly required by Colstrip's air quality permit. Air Quality Permit 0513-07, § II.B.1 (Apr. 9, 2009) (requiring testing and monitoring for "total particulate"). A Title V operating permit must incorporate "any federally enforceable term, condition or other requirement of any Montana air quality permit." ARM 17.8.1201(10)(b). DEQ's responses to comments fail to explain the omission of this air quality permit requirement from the draft operating permit.

[Earthjustice (MEIC/Sierra Club) 9/24/2012]

## DEPARTMENT RESPONSE:

The commenter mentions the necessity of requiring continuous PM monitoring for all 8,760 hours in the year. ARM 17.8.1213 states: "all permits shall contain compliance certification, testing, monitoring, reporting, and recordkeeping requirements **sufficient to assure compliance** with the terms and conditions of the permit." (emphasis added) The proposed Title V permit contains two approaches to assure compliance with the PM limit: annual performance testing (Method 5 or 5b) and a CAM plan. The Department has reviewed EPA's response to this issue concerning a Colorado permit for further guidance on the implementation of continuous PM monitoring. In EPA's Order Responding to Petitioner's Request that the Administrator Object to Issuance of a State Operating Permit (Petition Number: VIII-2009-01),<sup>4</sup> EPA indicated that "A title V permit must include all applicable requirements. See 40 CFR 70.5(c)(4). It must also include monitoring necessary to assure compliance with applicable requirements. See FCAA 42 USC § 7661c(a); see also 40 CFR 70.6(c)(1). Petitioner fails to identify any applicable requirement that requires the use of PM CEMS for monitoring compliance with the PM limit. Petitioner also has not alleged or demonstrated that PM CEMS are the only monitoring that can assure compliance with the PM limit and therefore must be included in the title V permit." EPA further stated that "Petitioner fails to demonstrate that PM CEMS is required as an applicable requirement or as monitoring necessary to assure compliance with an applicable requirement. Therefore, I deny the petition on the issue that the Hayden Power Station title V permit must include PM CEMS to assure compliance with the boilers' PM limit." The Department concurs with EPA's finding and finds this language applicable in response to the comment.

Section III.B of the permit covers emitting units EU001 and EU002 - Tangential Coal Fired Units 1 & 2. These units are subject 40 CFR Part 60, Subpart D (Subpart D) and thus have an established PM limit. The PM limits established under Subpart D were determined to be "front-half" only PM limits in the finalization of the standard. In a January 27, 1998 document written by Michael Pjetraj of the North Carolina Department of Air Quality entitled "*Condensible Particulate Matter Regulatory History and Proposed Policy*," the regulatory history of Subpart D was discussed as follows:

*"When the EPA was mandated to develop emission standards for industries generating significant amounts of pollution, the EPA identified particulate matter as one of the regulated pollutants. In August of 1971, the EPA proposed emission standards for five source categories: Fossil Fuel Fired Steam Generators, Incinerators, Portland Cement Plants, Nitric Acid Plants, and Sulfuric Acid Plants. Limits for particulate matter emissions were proposed for three of the five initial New Source Performance Standard (NSPS) subparts and the test method to demonstrate compliance for these sources was also proposed. The NSPS limits were developed from test data at multiple representative facilities. The initial tests were performed using a particulate method that would quantify the filterable and condensable particulate matter separately. The summation of these two values was then termed the total particulate catch. When the initial particulate limits were proposed, the limit was based on total particulate data. During the rule making comment period, there was dissent regarding the use of the condensable catch. One primary dissenting argument was that the SO<sub>2</sub> emissions would be quantified in the condensable fraction of the sampling train, thus double counting the SO<sub>2</sub> emissions. Also, arguments were presented that condensable emissions were a non-predictable phenomenon, and therefore, could not be predictably controlled. In December of 1971, the EPA promulgated the initial NSPS limits for particulate and the corresponding test method. The promulgated Method 5 particulate matter test method omitted the analysis of the condensable catch and measured only the filterable particulate. To compensate for the exclusion of condensable particulate matter, the promulgated NSPS standards for particulate matter emissions from steam generators and incinerators were decreased.*

*Federal Register (FR) 12/23/71: Preamble to the Promulgated NSPS & Method 5  
"Particulate matter performance testing procedures have been revised to eliminate the requirement for impingers in the sampling train. Compliance will be based only on material collected in the dry filter and the probe preceding the filter. Emission limits have been adjusted as appropriate to reflect the change in test methods. The adjusted standards require the same degree of particulate control as the originally proposed standards."*

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<sup>4</sup> In the matter of Public Service Company of Colorado, dba Xcel Energy, Hayden Station, Permit Number: 96OPRO132, Issued by the Colorado Department of Public Health and Environment, Air Pollution Control Division. Signed March 24, 2010.

*FR 3/21/72: Supplemental Statement in Connection with Final Promulgation:*

*"There has been only limited sampling with the full EPA train such that the occasional anomalies cannot be explained fully at this time. Accordingly, we determined that, for the three affected source categories, steam generators, incinerators, and cement plants, particulate standards should be based on the front half of the EPA sampling train with mass emission limits adjusted as follows:*

	<i>Originally proposed particulate standards, full EPA train</i>	<i>Recommended particulate standards revised sample method (front half only)</i>
<i>Steam Generators (lb/mmBtu)</i>	<i>0.20</i>	<i>0.10</i>
<i>Incinerators (gr/dscf at 12% CO<sub>2</sub>)</i>	<i>0.10</i>	<i>0.08</i>
<i>Cement Kilns (lbs / ton feed)</i>	<i>0.30</i>	<i>0.30</i>
<i>Cement Coolers (lbs / ton feed)</i>	<i>0.10</i>	<i>0.10</i>

Similarly, Units 3 & 4 are subject to Subpart D. The particulate limits for those units were established in the original EPA PSD permitting action dated September 11, 1979. The compliance determining method for the PM limits was listed as "shall be as provided for in 40 CFR Part 60, Appendix A, Method 5," confirming that the limits were for filterable PM emissions only. The PM limits were established under the PSD BACT requirements (with the NSPS requirements under Subpart D being the "floor" for BACT consideration). Further, in its response to comments on the September 11, 1979 permit, EPA explained its basis for the numeric PM limitation and how it compares to the front-half only limit that was promulgated under 40 CFR Part 60, Subpart Da, the next iteration in NSPS. If the BACT limit was intended to include both filterable and condensable fractions, there would be no basis for comparison with the NSPS.

Thus, since the limit under Subpart D was established with the assumption of "front-half" or filterable PM emissions only, the Department has maintained the requirement to use Method 5 "front-half" only testing on Units 1 & 2 and 3 & 4. The permit requires compliance with "total particulate" in relation to the when and how the limits were established. The above discussion describes the reason why the limitations, as well as the method of demonstrating compliance, are based on the "front half" testing requirements.

CEMS are not required by any EPA or State regulation currently applicable to the source and the commenter fails to demonstrate that additional monitoring, including CEMS, is necessary to ensure compliance with the emissions limits of the Permit. While Method 5 alone may not derive a continuous measurement of compliance with the PM emission limitation, the Department believes an accurate representation of PM concentrations is derived through the testing frequency along with the use of other methods of PM monitoring and control measures including opacity limitations determined through the use of COMS, quality control and quality assurance through the requirements outlined within PPLM's CAM plan, as well as scrubber operation and maintenance in accordance with manufacturer/vendor recommendations, modified per PPLM's operational experience. PPLM's CAM plan has been revised since the first draft issuance of Operating Permit #OP0513-07 to incorporate additional performance indicators (i.e. plumb bob pressure drop ( $\Delta P$ ) and venturi spray flows) to demonstrate quality control and verification of proper control of particulate matter.

In response to the commenter's statement that monitoring is required for "total particulate – both filterable and condensable portions," it shall be noted that the original condition (i.e. particulate limits established in the original EPA PSD permitting action dated September 11, 1979), as explained above, drives the Title V compliance demonstration. The Department recognizes reference to "total particulate" in MAQP #0513-08 is an error, and that filterable PM is the appropriate subject of monitoring. MAQP #0513-08 needs to be updated to clarify these testing requirements.

**5. “The Colstrip Title V permit fails to incorporate necessary provisions for mercury monitoring, including the facility’s MEMS Plan.”**

COMMENT:

The draft operating permit fails to include necessary assurances for compliance with mercury emissions limits. See 42 U.S.C. § 7661c(a); see also ARM 17.8.771 (establishing mercury emission standards for Montana). The draft permit identifies Mercury Emission Monitoring Systems (“MEMS”) as the method for demonstrating compliance with facility-wide mercury emission limits of 0.9 lb/TBtu, calculated as a rolling 12-month average. See Draft Permit, Conditions K.1, K.2, K.4, & K.5. However, DEQ asserts that the MEMS plan does not need to be included in the operating permit because amendment of the MEMS plan then would require amendment of the Title V permit. See TRD0513-08, p. 24.

One of the primary purposes of Title V is to “enable the source, States, EPA, and the public to understand better the requirements to which the source is subject, and whether the source is meeting those requirements.” 57 Fed. Reg. at 32,251. To this end, operating permits must describe monitoring, recordkeeping, reporting, and “other conditions as are necessary to assure compliance with applicable requirements.” 42 U.S.C. § 7661c(a); see also 40 C.F.R. § 70.1; ARM 17.8.1212. Because the MEMS is the means by which Colstrip must assure compliance with mercury limits, the MEMS must be included in the Title V permit.

[Earthjustice (MEIC/Sierra Club) 9/24/2012]

DEPARTMENT RESPONSE: The Department can provide MEIC and Earthjustice with the MEMS plan under separate cover, and is open to discussion if the commenters have additional comments or questions regarding the MEMS plan. However, the Department does not agree that it needs to be attached to the permit (and “included in the permit application and final permit”). The mercury emission and monitoring requirements are applicable requirements pursuant to ARM 17.8.771 (a “State-Only” requirement), which invokes 40 CFR Part 75 with respect to MEMS. The MEMS plan was originally required in MAQP #0513-07 in Attachment 2, which is also contained in #OP0513-07, Appendix J. MAQP #0513-07 and Attachment 2 were issued after of a public comment period during the permitting process. 40 CFR Part 75 was included to be consistent with the Federal Clean Air Mercury Rule (CAMR), now vacated. During Montana’s mercury rulemaking process, numerous stakeholders stressed the need to keep the monitoring provisions consistent with those being required on a national level. However, a significant part of the CAMR provisions was dedicated to a mercury market trading system and monitoring provisions associated with that, similar to the Acid Rain trading provisions. For the purposes of determining allowances and compliance with allowances, there are additional monitoring provisions required in 40 CFR Part 75 that are not relevant to compliance with the emission limitations required under ARM 17.8.771. Because of those additional complexities (and the overall complexity of MEMS beyond traditional emissions monitors, NO<sub>x</sub>, SO<sub>2</sub>, etc.) and to clarify for the public and affected facilities the specific monitoring requirements, Department permitting and compliance staff worked with the affected industry on the requirements housed in Attachment 2 of MAQP #0513-07 for PPLM. The MEMS plans required under Attachment 2 are specific to the type of monitors being used and describe how 40 CFR Part 75 is being met with those monitors, as do similar plans for COMS, SO<sub>2</sub> CEMS, etc. Such plans do not “determine applicability of or exemptions from conditions in the permit” as described in the petition cited by the commenters, “WE Energies Oak Creek Power Plant, Order Responding to Request that the Administrator Object to Issuance of a State Operating Permit, at 24-25.”

As stated in the *EPA White Paper for Streamlined Development of Part 70 Permit Applications July 10, 1995*, “This paper provides guidance to States and sources in devising a means to revise NSR permit terms as appropriate (including classification as a State-only enforceable term) in conjunction with the part 70 permit issuance process. As used here, “new source review” refers to all forms of preconstruction permitting under programs approved into the SIP, including minor and major NSR. The EPA recognizes that NSR permits contain terms that are obsolete, extraneous, environmentally insignificant, or otherwise not required as part of the SIP or a federally-enforceable NSR program. Such terms, as subsequently

explained, need not be incorporated into the part 70 permit to fulfill the purposes of the NSR and title V programs required under the Act.” In conclusion, the Department’s mercury requirements are not a part of the SIP and the Department has corrected the permit to reflect the fact that the mercury conditions and associated requirements are “State-Only” requirements.

In addition, to include/attach such plans to Title V permits would require a modification or amendment to the Title V permit when any part of the MEMS plan was altered. As previously stated, the plans will be available upon request but do not need to be attached or available at any opening of the respective Title V permit.

## **6. “The permit shield is too broad.”**

### COMMENT:

DEQ also has not made findings necessary to extend the “permit shield” to all applicable requirements identified in the summary table on page 1 of the Technical Review Document. A permit shield can only cover applicable requirements that are specifically identified in the permit. Further, DEQ must “determine[] in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.” ARM 17.8.1214(1).

The permit shield in the draft permit, however, purports to extend to all possible applicable requirements by stating that “compliance with the conditions of the permit shall be deemed compliance with any applicable requirements.” Draft Permit (OP0513-08) at 39 (emphasis added). This is too broad since DEQ did not make a determination in writing that every potentially applicable requirement that does not appear in the permit is not applicable, much less include such a determination or a concise summary of the determination in the permit. To the extent DEQ intends to extend a permit shield, it must at a minimum revise the current language to identify and cross-reference, specifically, those requirements that DEQ found non-applicable.

Moreover, because New Source Review (“NSR”) requirements can apply multiple times to a facility (each time it undergoes a major modification), merely identifying NSR as applicable is not sufficient to extend a permit shield for NSR requirements. See TRDOP0513-08, p. 1. Presumably, DEQ intends to identify NSR based on the initial construction of Units 3 and 4 in the 1980s. DEQ should specify that fact. Moreover, DEQ should specify that it has not determined whether NSR is applicable to any modifications made to the facility since the initial construction of the units, for example, based on any physical or operational changes made to the units. If DEQ were to make a determination that NSR does not apply to changes made to the plant since initial construction, it would need to specify the basis for that analysis in the record. DEQ must clarify that the permit shield does not extend to applicable requirements that are not specifically identified in the permit.

[Earthjustice (MEIC/Sierra Club) 9/24/2012]

### DEPARTMENT RESPONSE:

The table included on the first page of the Technical Review Document (TRD) is a summary of pertinent programs, plans, requirements etc. applicable to the facility. The intent of this table is to provide the reader with this information in a general manner. The table has no bearing or weight with regards to application of the permit shield. A list of non-applicable requirements identified in accordance with ARM 17.8.1214, as well as the reasons of which they are not applicable, can be found within Section IV of the draft operating permit. Within Section IV of the TRD, the Department provides a summary statement of any requirements that, although they may have been requested by the permittee, could not be listed as non-applicable requirements under Section IV of the operating permit.

To further clarify, while the commenter is concerned with a permit shield for NSR requirements, the facility is not shielded from NSR. Regulations associated with NSR and/or PSD are not included in the list of non-applicable requirements listed in Section IV (the “permit shield” section) of the operating permit.

**7. Colstrip’s Title V permit (OP0513-06) expired on April 12, 2010, and the facility has since been unlawfully operating without a valid permit.**

COMMENT

More than a year after Colstrip’s permit expired, DEQ finally issued a draft Title V permit (OP0513-07) for the facility. (Although Montana law provides an “application shield” that allows facilities to continue operating under an expired permit provided the operator applies for permit renewal within six months prior to the expiration date of the permit, PPL failed to submit a timely application and therefore is currently operating illegally. See ARM 17.8.1221.) MEIC and Sierra Club identified numerous deficiencies with that draft in comments dated June 16, 2011, which are attached to this letter as Exhibit 1 and incorporated by reference. Now, after two and a half years of illegal operation of the Colstrip plant, DEQ has issued yet another draft permit for public comment. Unfortunately, the new draft permit still fails to require compliance with all emission limitations applicable to the Colstrip facility and fails to require monitoring that is sufficient to demonstrate compliance with applicable requirements.

[Earthjustice (MEIC/Sierra Club) 9/24/2012]

DEPARTMENT RESPONSE

On March 25, 2010, the Department received a complete Title V Operating permit renewal application from PPLM and it was given application number OP0153-07. In accordance with ARM 17.8.1205(2) provides, in part: “To be considered timely for the purposes of this rule, a person required to obtain a permit pursuant to this subchapter shall file an application with the department as follows:... (c) For renewal, a permittee shall submit a complete air quality operating permit application to the department not later than six months prior to the expiration of the existing permit, unless otherwise specified in that permit.” Operating Permit OP0513-06 expired on April 12, 2010, and for a renewal application to have been considered timely, PPLM should have submitted it by October 12, 2009.

The Department did receive a complete application on March 25, 2010. In accordance with ARM 17.8.1220(2), which provides, in part: “the department shall take final action on each air quality operating permit application (including a request for permit modification or renewal) within 18 months of receiving a complete application.” The Department issued Draft Title V Permit #OP0153-07 on May 17, 2011 with the close of the comment period on June 16, 2011, and was on track to have a complete action within 18 months of receipt of the complete application. The Department received substantial comments regarding the draft permit. The Department understood the need to issue the permit but also felt the nature of the action and the depth of the comments necessitated further review of the comments received and the need to fully respond to the comments along with any changes needed in the permit. The Department worked on preparing responses to comments and on January 17, 2012, the Department requested additional information from PPLM concerning the Compliance Assurance Monitoring (CAM) plan for the facility. The Department received this additional information on March 29, 2012. The Department also received a comment from MEIC and Sierra Club requesting that the Department circulate a permit for public review once the draft document was revised based on the comments and responses expected. The Department prepared responses to the comments received on Draft Operating Permit #OP0153-07. The Department made a determination that it was appropriate to issue a draft permit based on the substantive changes made to the CAM plan. The draft permit was assigned #OP0153-08 and issued draft on August 10, 2012. On August 17, 2012, the Department received a request from Earthjustice to extend the public comment period on Draft Operating Permit #OP0513-08. The Department granted this request and approved a 14-day extension to the original 30-day public comment period on Draft Operating Permit #OP0513-08. The updated public comment period allowed for comments to be received from August 10, 2012 to September 24, 2012. The Department is now responding to comments to permit #OP0153-08 and issuing the proposed permit to PPLM in this permit action.



The Department has continued to enforce Operating Permit #OP0513-06 and Montana Air Quality Permit #0513-08.

**8. Please require compliance with the Environmental Protection Agency's new standard for sulfur dioxide.**

COMMENT: Within the permit, please establish one-hour emission limits to ensure that Colstrip's sulfur dioxide emissions are not endangering the health of people living and working downwind of the plant. Please also require monitoring that ensures continuous compliance with health-based limits for harmful particulate pollution. Incorporate the EPA's recently adopted air pollution limits for Colstrip's nitrogen oxides and sulfur dioxide emissions to limit Colstrip's impairment of visibility at national parks and wilderness areas. Please incorporate the newly adopted federal limits and monitoring requirements for hazardous air pollutants – including mercury, acid gases, and metallic hazardous air pollutants.

[Helena Hunters & Anglers Association 9/19/2012]

DEPARTMENT RESPONSE:

The commenter has summarized requests associated with the following:

- EPA's 1-hour SO<sub>2</sub> NAAQS, which became effective on August 23, 2010
- Continuous PM monitoring
- Montana's Regional Haze FIP
- 40 CFR 63, Subpart UUUUU – National Emission Standards for Hazardous Air Pollutants ("NESHAPs") from Coal- and Oil-Fired Electric Generating Units.

The commenter is referred to responses to Comments 1 through 4.

**9. Montana's Regional Haze FIP**

COMMENT: The commenter generally expressed concerns with "EPA's Regional Haze plan for Montana" not being adequate.

[Montana Elders for a Livable Tomorrow 9/19/2012]

DEPARTMENT RESPONSE:

Montana's Regional Haze FIP was proposed and promulgated by EPA to address regional haze in the State of Montana. The proposed rule was published on April 20, 2012. Written comments pertaining to the proposed rule were accepted until June 19, 2012. The Department, as well as other entities and members of the public, provided comments on the proposed rule. These comments and responses can be viewed within the docket established by EPA for this action (Docket ID No. EPA-R08-OAR-2011-0851 as listed on the [www.regulations.gov](http://www.regulations.gov) website).. All comments were addressed by EPA with the final rule promulgated on September 18, 2012 (77 FR 57864, Sep. 18, 2012).

**10. Concerns about compliance with EPA's 1-hour SO<sub>2</sub> NAAQS, continuous PM monitoring, Montana's Regional Haze FIP, and 40 CFR 63, Subpart UUUUU.**

COMMENT: A multitude of identical form letters were received by the Department summarizing concerns associated with EPA's 1-hour SO<sub>2</sub> NAAQS, continuous PM monitoring, Montana's Regional Haze FIP, and 40 CFR 63, Subpart UUUUU.

DEPARTMENT RESPONSE:

The Department has prepared responses associated with each of these concerns. The commenters are referred to responses to Comments 1 through 4.

**11. Technical Review Document -Page 18, Section V.**

COMMENT: PPLM notes that EPA's recently signed Regional Haze Federal Implementation Plan for Montana will impose Best Available Retrofit Technology requirements on Units 1&2. The compliance dates are within five years of October 18, 2012 for Sulfur Dioxide and Nitrogen Oxides, and by November 17, 2012 for Particulate Matter. PPLM believes that fact should be so noted in this section.

[PPLM 9/24/2012]

DEPARTMENT RESPONSE:

The Department included additional narrative within Section V of the TRD to include Montana's Regional Haze FIP under 'Other Considerations' and has included information on applicable compliance dates.

**12. Technical Review Document - Page 18, Section V.A. MACT Standards (40 CFR Part 63).**

COMMENT: The noted security/weight scale emergency generator has been removed from service per our August 20, 2012 notification.

[PPLM 9/24/2012]

DEPARTMENT RESPONSE:

This section has been updated to reflect this removal from service.

**13. Technical Review Document - Page 18, Section V.D. Risk Management Plan.**

COMMENT: We do not find an exemption from the requirements of 40 CFR Part 68 for Units 1&2. Consequently we believe that Units 1&2 should be listed under this section. However, we note that no Colstrip unit has listed chemicals in quantities large enough to require a Risk Management Plan.

[PPLM 9/24/2012]

DEPARTMENT RESPONSE:

The Department agrees that Units 1 and 2 should be included within this section and has incorporated accordingly.

**14. Technical Review Document - Page 26, Item 6. Department Response to Comment - Building Heating Boiler.**

COMMENT: In its response the Department discusses propane as a fuel for this boiler. This boiler burns #2 Diesel.

[PPLM 9/24/2012]

DEPARTMENT RESPONSE:

The Department appreciates the clarification provided. The Department still considers this building heater boiler small by industry standards and installation of continuous emissions monitoring would result in a significant cost and little environmental benefit. Therefore, the Department still finds the need for additional emissions monitoring unnecessary.

**15. Technical Review Document - Page 52, Item 33. Removal of Mercury monitoring requirements.**

COMMENT: PPLM submitted the following comment relevant to mercury monitoring requirements in its June 15, 2011 comments on draft permit # OP513-07: *“References to Mercury Emission Monitoring System (MEMS) Operating and Performance Requirements in 40 CFR Part 75. EPA, in a March 28 rulemaking (76FR17288 ), removed the mercury monitoring requirements from 40CFRPart 75. When these deletions are officially adopted by Montana, the references in this permit will be referring to obsolete or non-existent requirements.”*

The point of this comment was not to suggest any change to the monitoring requirements specific to PPLM in this permit, but to point out the fact that with EPA’s removal of the mercury monitoring requirements from 40 CFR Part 75, the Department’s references to such requirements may be in error if it directs the reader to a portion of EPA regulations that no longer exist.

[PPLM 9/24/2012]

DEPARTMENT RESPONSE: The Department is implementing the requirements of 40 CFR Part 75 as part of implementing ARM 17.8.771. The Department’s adopted ARM 17.8.771 became effective on October 27, 2006. As part of this rule making the Department incorporated 40 CFR Part 75 as it was written at that time and as it applies to Montana mercury rules. As stated in ARM 17.8.771(12), “...the provisions of 40 CFR Part 75 and Part 60, Appendix B, amended by CAMR, as they pertain to monitoring, recordkeeping, and reporting of mercury emissions, remain in effect as incorporated by reference in ARM 17.8.767(1).” The Department believes that there are no issues as the permit is currently written.

**16. Permit OP0513-08 - Page 2, Pollution Control Device/Practice for EU001 and EU002.**

COMMENT: Units 1&2 are equipped with the following Nitrogen Oxide (NOx) control – Low NOx burner firing system and digital controls. For units 1&2, the system is an Alstom LNCFS II® System. (For Units 3&4, the advanced system is an Alstom LNCFS III® System.)

[PPLM 9/24/2012]

DEPARTMENT RESPONSE:

This information on specific types of NOx control has been included within the ‘Summary of Emission Units’ table on Page 2.

**17. Permit OP0513-08 - Page 2, Pollution Control Device/Practice for EU015, Underground Gasoline Tank.**

COMMENT: The tank is equipped with a permanent submerged fill pipe for its Pollution Control Device/Practice.

[PPLM 9/24/2012]

DEPARTMENT RESPONSE:

The use of a permanent submerged fill pipe has been included as a pollution control device/practice for EU015, Underground Gasoline Tank.

**18. Permit OP0513-08 - Page 10, condition B.28.**

COMMENT: Typographical error in first line – “Method 8” should read “Method 9”.  
[PPLM 9/24/2012]

DEPARTMENT RESPONSE:

The error has been corrected as noted.

**19. Permit OP0513-08 - Page 11, Emitting Unit Summary Table Inlet Sulfur Standard.**

COMMENT: We propose an equivalent demonstration to the current method of implementing this requirement. Our current demonstration is based on individual coal samples. The results from these coal samples are received 1-3 days after the sample is taken. Once the analysis is received, the plant can then take action in the form of blending coal, which typically takes up to a day to show up at the boiler. We propose to base the inlet sulfur requirement on a weekly average of individual coal samples. A weekly average better represents actual plant operation and therefore is a more meaningful limit. The plant has complied and will continue to comply with all stack sulfur dioxide (SO<sub>2</sub>) emission limits independent of the inlet sulfur in the coal.

[PPLM 9/24/2012]

DEPARTMENT RESPONSE:

The Department modified the compliance demonstration for 1% sulfur limitation to be a weekly average of individual daily composite coal samples.

**20. Permit OP0513-08 - Page 26, Condition G.5.**

COMMENT: We question the benefit of conducting weekly visual inspections for EU010, Emergency Diesel Generators, and ask to the Department to remove this requirement for these sources. The operation of these engines at our plants is so infrequent that visual inspections will rarely, if at all, observe visible emissions. The most recent 3-year annual average operating hours of these engines are as follows: Units 1&2 #1 – 24; Units 1&2 #2 – 19; Units 3&4 A, B, C, and D – 10, 10, 12, 12, respectively. Furthermore, the appropriate actions to control visible (and all) emissions are already being conducted on a routine, continuous basis. Those control actions consist of proper operation and maintenance of the engines per manufacturer’s specifications. These engines load and come to operating temperatures within a few minutes of startup, resulting in little, if any visible emissions at all when running. Consequently, the environmental benefit of weekly visible inspections to monitor opacity as outlined in condition G.5. is negligible.

[PPLM 9/24/2012]

DEPARTMENT RESPONSE:

The condition begins “Only in times of generator operations,” which allows for flexibility in conducting visual surveys for these particular units during actual operating hours.

## 21. Permit OP0513-08 - Page 32 – Mercury Control.

COMMENT: PPLM requests confirmation that this is a state-only requirement and that the fact should be so noted throughout the permit as necessary  
[PPLM 9/24/2012]

DEPARTMENT RESPONSE: The Department has denoted the Montana mercury related conditions and associated compliance demonstration and recordkeeping and reporting requirements as state-only in this proposed permit. This was also referenced in response to comment number 5 above.

## 22. Permit OP0513-08 - Page B-2, Definition of “Excess Emission”.

COMMENT: We request the Department to re-evaluate its approach to fugitive source opacity monitoring. In the definition of excess emissions (Page B-2) and the Compliance Demonstrations throughout previous sections (F.5 and others), the proposed permit would require corrective action to minimize emissions and define as excess emissions visible emissions equal to or exceeding 15 percent opacity. Further, the definition of excess emissions would include visible emissions equal to or exceeding 30 percent in the case of opacity limits of 40 percent. PPLM is concerned that these requirements and limits would impose new and more stringent opacity standards in the Title V permit beyond that authorized under the Title V program. In particular, the rules specify that the air quality operating permit “shall include all applicable requirements for all emissions units at a source required to obtain a permit.” Mt. Code Ann. 17.8.1204(5). “Applicable requirements” is defined to include pre-existing standards and other requirements under various provisions of the federal Clean Air Act and the Montana State Implementation Plan approved by EPA. But there is no provision for the Title V permit to impose new and more stringent emissions limits with corrective action obligations such as a 15 percent opacity limit or to qualify opacity exceeding such more stringent limits as “excess emissions.”  
[PPLM 9/24/2012]

### DEPARTMENT RESPONSE:

First, with updated visual survey language for recent Title V renewals, the definition for “Excess Emissions” was determined to no longer be needed. This definition was inadvertently left in the draft operating permit and has now been removed.

The Department has set the visual surveys as a monitoring mechanism for the opacity requirements in lieu of frequent Method 9 testing. The Department has clearly stated in the permit document that the condition that applies is ARM 17.8.304(2) which limits opacity to <20%. However, the Department cannot elect to implement a compliance demonstration that would result in the source being out of compliance with the applicable requirement. In accordance with ARM 17.8.1213(1)(b), *“Each air quality operating permit shall contain the following requirements with respect to monitoring:...Where the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the air quality operating permit, as reported pursuant to (3). Such monitoring requirements shall assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement.”*

The Department has established periodic monitoring in terms of the applicable requirement and within a measure of the applicable requirement to determine compliance. The 15% level is not indicative of a violation of the applicable requirement, but rather a level at which some action should be necessary to assure ongoing compliance with the applicable requirement. The Department is consistently applying this method of periodic monitoring on all Title V sources and continues to believe it is an appropriate method for periodic monitoring of the opacity rule. PPLM provided no other options for periodic monitoring in relation to the opacity rule and the Department has maintained the visual survey language in this proposed permit action.

**23. Permit OP0513-08 - Page J-2, Item c.(1) (b), Mercury 12-month rolling average calculation.**

COMMENT: PPLM requests the Department to consider allowing by permit alternate methods of calculating a 12-month rolling average. The Department specifies monitoring to be conducted per 40 CFR Part 75. Part 75 specifies calculating of average values using all valid hourly data in a particular period. Yet the Department requires the 12-month rolling average be calculated using 12 monthly averages. Using the monthly average method has the risk of yielding non-representative results, since the average is not weighted to account for actual unit operation. (e.g. – a monthly average with only 1 valid hour of unit operation is given as much weight as a monthly average with a full month's operation).

In order to ensure that a 12 month rolling average is as representative as possible, the Department should allow use of the methodology that best reflects a given operational scenario.

[PPLM 9/24/2012]

DEPARTMENT RESPONSE: Attachment 2 in the MAQP would need to be updated prior to any changes being made to the Mercury Emission Monitoring Systems (MEMS) Appendix in the Title V permit because the MAQP attachment is the underlying requirement/authority for the same attachment being in the Title V permit appendix.